PROJECT DEVELOPMENT COURSE FOR
LOCAL GOVERNMENTS

GUIDEBOOK

PROJECT DEVELOPMENT WORKSHOP

Municipality of Alfonso Lista, Ifugao

United States Agency for International Development

Governance and Local Democracy Project/GOLD

March 20 - 23, 2000

This Guidebook was prepared jointly by the ARD/GOLD Project and the Municipality of Alfonso Lista, Province of Ifugao with the support of the United States Agency for International Development (USAID) under the terms of contract no. 492-0741-C-00-5089-00 for the Governance and Local Democracy Project. The contents do not necessarily reflect the views of USAID.

TABLE OF CONTENTS

INTRODUCTION

The Local Government Code of 1991 devolved to local government units major functions handled by national government agencies. These functions include those previously handled by the Departments of Agriculture, Environment and Natural Resources, Social Welfare and Development, Health, Finance, Science and Technology, Trade and Industry and other agencies.

The Code also granted local government units the power to access credit from capital markets. LGUs can now directly access loans and issue revenue bonds to finance their priority projects and have the power to enter into joint venture and build-operate-transfer (BOT and its variants) agreements, thus allowing them to mobilize private sector resources to meet pressing development needs.

LGUs have persistently demanded more funds to implement the projects they understand to be strategic to their respective needs. This seems to be clear in the Annual and Medium-Term Investment Plans submitted to the DILG.

Despite the range of financing options available to them, LGUs have been rather slow in availing themselves of the various resource mobilization powers at their disposal. For example, after seven years of decentralization, only about a fifth of the provinces, cities and municipalities have accessed loans. Less than five LGUs have actually entered into project implementation agreements through BOT or joint venture. Only two LGUs have used bond issuance as a mode for raising funds for their housing projects. There remain hundreds of LGUs who have not experienced credit assistance in whatever form. Surprisingly, the lack of financial resources has consistently been raised by LGUs as a key concern, especially in the light of the national government's withholding of five percent of the IRA.

A paper presented in a recent forum sponsored by the Department of Finance on the LGU access to credit finance cites among others, the following barriers to the full development of the LGU credit-finance sector[1]:

- Difficulty in identifying self-supporting projects;
- High "front-end" cost of project development;

[1] "Forum on Local Government Access to Credit Finance: Municipal Bonds", held on May 10, 1999 at the Century Park Sheraton, City of Manila. The Department of Finance with the support of the USAID organized the event.

- Lack of technical expertise at the LGU level, particularly in project development.

All three have resulted in a pitifully short pipeline of LGU projects.

This short course on project development is an attempt at contributing to address those three barriers. The Course, employs a hands-on approach to the transfer of project development technology.

It is hoped that local governments who undergo the course emerge with a project study their local legislative councils can intelligently deliberate on. If they so desire, and will, they may present these before interested financing establishments and investors who will help them realize the dreams of their communities.

OBJECTIVES OF THIS ACTIVITY

At the end of this four-day activity, the participants are expected to:

Rational Objectives	Experiential Objectives
• Have prepared preliminary drafts of key elements of a project study for validation and finalization; and	• Realize the importance of developing project studies for the implementation of priority projects; and
• Be equipped with skills necessary to develop and prepare project studies.	• Be fully aware of the scope of their responsibility to ensure the success of the project under study.

SPECIFIC OUTPUTS OF THE WORKSHOP

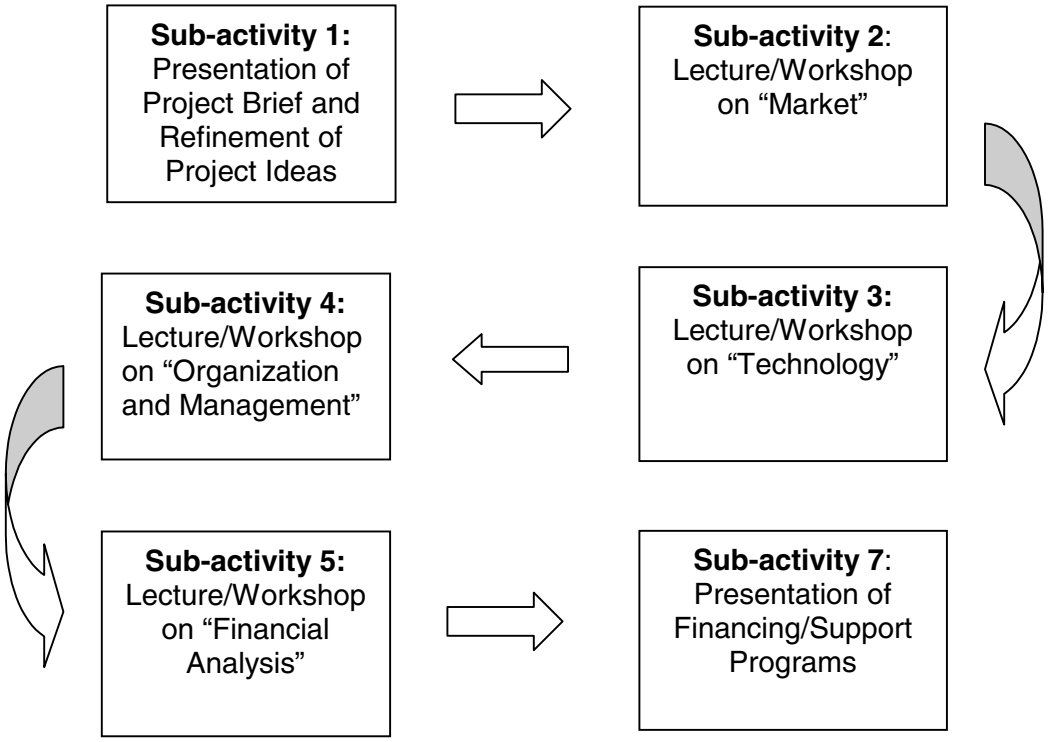
At the end of this workshop, the participants shall have generated the following draft reports:

- ✓ Initial report on the market or expected use of the facility or program to be established.
- ✓ Initial report on the technology to be used by the facility or program.
- ✓ Initial report on the organizational and management requirements of the facility or program.
- ✓ Initial report on the financial flows associated with the operation of the facility or program under study.

The expected outputs of the workshop will be further refined and completed during the succeeding phases of the course. The quality of the workshop outputs may be influenced by the kind and type of data/information available during the activity. The participants are therefore enjoined to bring as much data and information as possible during the workshop.

GENERAL WORKSHOP FLOW

This activity will consist of six (6) structured sub-activities shown below.



The structure of each sub-activity is discussed in the succeeding pages. For the participants' guidance, following is the Workshop Program of Activities.

PROJECT DEVELOPMENT WORKSHOP
Municipality of Alfonso Lista, Ifugao Province
March 20 – 23, 2000

Program of Activities

Day/Time	Activity	Requirements
Day 1: AM 8:00-9:00	**Participants' arrival and registration**	Fill up registration form Sign attendance sheet
9:00-9:30	**Opening activities** Opening program Leveling of expectations: Objectives	Opening Program Workshop objectives
9:30-9:45	**Overview of the Workshop** Expected outputs Topics covered Overview of process Workshop rules	Workshop Guidebook
9:45-11:00	**Presentation of Project Abstracts** This activity will be done per group. A template is provided for this purpose. After the presentation, the participants define their respective projects in more specific terms.	Abstracts shall have been prepared prior to the workshop. The technical team members may assist the LGU participants in this regard.
11:00-12:00	**Module on The Market** Lecture/Discussion	Workshop Guidebook Supplies and Materials
12:00 NN	Lunch	
PM 1:00-1:15 1:15-5:00	 Explanation of Workshop Process Workshop	 Computers
Day 2: AM 8:00-9:00	**Continuation of Market Module** Gallery Session Participants are asked to summarize their findings in templates. These are posted in a gallery for viewing and comments by the other participants and resource persons.	Workshop Guidebook Workshop Outputs Templates Supplies and materials "Remark Sheets"

Day/Time	Activity	Requirements
9:00-10:00	Critiquing Session Resource persons and participants are asked to comment on the outputs.	Workshop staff shall have processed the "remark sheets".
10:00-11:00 11:00-12:00	**Module on The Technical Study** Lecture/Discussion on Technical Evaluation Lecture on Environmental Impact Evaluation in the Context of Sustainable Development	Workshop Guidebook Supplies and materials Computers
12:00-1:00	Lunch	
PM 1:00-5:00	Workshop	
Day 3: AM 8:00-9:00	**Continuation of the Technical Study** Gallery Session Participants are asked to summarize their findings in templates. These are posted in a gallery for viewing and comments by the other participants and resource persons.	Workshop Outputs Templates Supplies and materials "Remark Sheets"
9:00-10:00	Critiquing Session Resource persons and participants are asked to comment on the outputs.	Workshop staff shall have processed the "remark sheets".
  10:00-11:00 11:00-11:15 11:15-3:00	**Module on Organization and Management Study** Lecture/Discussion Explanation of Workshop Mechanics Workshop	Workshop Guidebook Supplies and materials Computers
3:00-4:00	**Continuation of the Organization and Management Study Module** Gallery Session Participants are asked to summarize their findings in templates. These are posted in a gallery for viewing and comments by the other participants and resource persons.	Workshop Outputs Templates Supplies and materials "Remark Sheets"
4:00-5:00	Critiquing Session	Workshop staff shall

Day/Time	Activity	Requirements
	Resource persons and participants are asked to comment on the outputs.	have processed the "remark sheets".
Day 4: AM 8:00-9:00 9:00-10:00	**Module on Financial Study** Lecture/Discussion on Financial Analysis Lecture on Socio-economic Evaluation	Workshop Guidebook Supplies and materials Computers
10:00-10:15 10:15-4:30	Explanation of Workshop Mechanics Workshop	
4:30-5:30	Gallery Session Participants are asked to summarize their findings in templates. These are posted in a gallery for viewing and comments by the other participants and resource persons.	Workshop Outputs Templates Supplies and materials "Remark Sheets"
5:30-6:30	Critiquing Session Resource persons and participants are asked to comment on the outputs.	Workshop staff shall have processed the "remark sheets".
6:30-7:00	Closing Ceremonies	Closing Program

PROJECT DEVELOPMENT COURSE FOR
LOCAL GOVERNMENTS

GUIDE TO SUB-ACTIVITIES

PROJECT DEVELOPMENT WORKSHOP

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PRESENTATION OF PROJECT ABSTRACT

Duration:	One hour
Outputs:	Project Abstract Presentation of Abstract
Requirements:	Template
Facilitation:	1 Facilitator to emcee the activity and organize the Q & A portion.

The Facilitator discusses the selected project or program with local officials and technical staff. The object of that discussion is to prepare a Project Abstract. The template for that abstract including a brief description of its contents, is shown at the next page.

1. The facilitator starts off the activity by explaining the process and the sequence of presentations.

2. **At this sub-activity, the local chief executive or his duly designated representative, such as Vice-Chief Executive or Member of the Local Sanggunian presents the accomplished template. He/she expresses a commitment to implement the project if determined to be technically and financially feasible.**

3. After the presentation, the other participants and Workshop Facilitators are asked to comment on the abstract.

PROJECT ABSTRACT

Project Title:

Examples: Post Harvest Facility
Terminal
Port

Reason for the Project:

The project could address a need (Post harvest facility to reduce the influence of middlemen and stabilize prices), opportunity (Vegetable Growing Program to take advantage of the rapid urbanization of a neighboring town or province or city), strength (Cultural Heritage Revival Program to take advantage of the abundance of natural scenic sites and cultural relics), weakness (Flood Control Project to solve a perennial flooding problem) or threat (Environmental Awareness Program to counter the potential environmental hazards expected of a rapidly growing tourism industry).

Service or Commodity that the Project Will Be Offering.

Examples: Storage space
Drying service
Extension service
Training to establish certified seed production facility
Networking with Agencies or Institutions
Reduced flooding
Reduced environmental hazards

New Template

Project Abstract

Project Title: Post Harvest Facility

Reason for the Project:

About 1,000 families of the municipality rely on corn production for their living. During the rainy season, in their haste to sell their produce, they easily fall prey to low prices.

Service or Commodity Offered:

Storage space
Drying facility

Project Description

Project Title: Post Harvest Facility with warehouse and drying facilities.

Reason for Project:

About 1,000 families of the municipality rely on corn production for their living. During the rainy season, in their haste to sell their produce, they easily fall prey to low prices. The project will enable the farmers to command better prices for their product.

Services Offered:

Storage space
Drying services

MODULE ON THE MARKET STUDY

Duration:	Seven (7) hours.
Output:	Draft Report: An Initial Assessment of the Market for, or User Coverage of the Project.
Requirements:	Handouts on the subject matter Guide to the Workshop Computer Supplies and materials Suggested Outline of the Write-up/Report Gallery Presentation Template
Facilitation:	A facilitator is assigned to each LGU to guide the activity

MODULE OBJECTIVES

The module aims to provide the participants with the following:

1. An understanding of the theoretical framework, basic concepts and techniques relating to the preparation of a market study.

2. An experience in preparing a market study.

3. Knowledge of the informational and data requirements relevant to the preparation of a market study.

At the end of the module, the participants shall have realized the importance of the market aspects of a project study as it determines whether or not a project is sustainable.

SUBJECT COVERAGE

Overview of the Market Study

Determination of Market Demand

- ✓ Characteristics
- ✓ Techniques in the Determination of Market Demand
- ✓ Factors Affecting Demand
- ✓ Demand Projections

Determination of Supply

- ✓ Characteristics
- ✓ Techniques for the Determination of Competition
- ✓ Sourcing Supply Information

Formulating a Marketing/Service Plan/Strategy

- ✓ Demand Supply Analysis
- ✓ Alternative Scenarios
- ✓ Decision Parameters
- ✓ Formulating a Marketing/Service Plan/Strategy
- ✓ Four Ps: Product Price Place and Promotion

MODULE ACTIVITIES

The Module will consist of four activities namely:

1. Lecture on the subject matter.
2. Workshop
3. Gallery presentation
4. Critiquing

Lecture on the Subject Matter

A lecture on the subject matter will start off the activity. The lecture will deal mainly with the theoretical and some methodological aspects of a market study. The lecture will cover about one hour.

Three articles are included as handouts to the lecture. The participants are enjoined to read these materials before the lecture and workshop. These articles are:

1. "Market Study", an article prepared by the National Economic and Development Authority (NEDA) for its project development training

seminars. The article is a concise description of the market study process.

2. Governance and Local Democracy (GOLD) Project Technical Notes, "Organizing for Rapid Market Research", Notes 1-1999.

3. Governance and Local Democracy (GOLD) Project Technical Notes, "Conducting Rapid Market Research for Agricultural Projects", Notes 2-1999.

Workshop

Workshop Objective

The objective of the Workshop is to enable the participants to prepare a draft market analysis with marketing plan and strategy. The highlights of those outputs will be presented to the other participants for their comments and suggestions.

Workshop Mechanics

1. The participants will be grouped by LGUs. A lead facilitator will be assigned to each LGU.

2. The LGU team will work on each aspect of the subject matter, as follows:

   - ✓ Determination of demand
   - ✓ Determination of supply
   - ✓ Demand Supply Analysis
   - ✓ Preparation of Marketing Plan.

3. The facilitators ensure that the participants each have their handouts, supplies and materials including report templates.

4. Using available information, references and data, the group work on the market studies.

5. Computers will be made available to the participants.

6. A Guide to Write-up is provided as a suggested report format.

7. Once all elements of the report are completed, the participants, with the assistance of the facilitator prepare a Gallery Presentation Template.

Report Format

The suggested report outline is presented in the following page. The participants may use another format however.

Draft Report: Market Study
Project:----------
Name of LGU:_____

Overview of the Market
- ✓ A description of the service or commodity to be offered or provided.
- ✓ A discussion on the likely users, consumers or beneficiaries of the service or commodity that the project or program will be providing.

Estimate of Demand or Need
- ✓ Major factors affecting demand or need
- ✓ Estimates of demand/need: current and projected
- ✓ Discuss the assumptions on which projections were based.
- ✓ Discuss the share of the market that you are targeting
- ✓ Discuss what needs to be done to finalize the market study.

Estimate of Supply
- ✓ Discuss current supply situation, use tables and other means to back up your assertions.
- ✓ Estimates of future supply
- ✓ Discuss the assumptions on which projections were based.
- ✓ Discuss private business sector involvement, if relevant. (Can the project be undertaken by the private sector?)
- ✓ Discuss what needs to be done to finalize or refine the supply study.

Demand/Supply Analysis

Discuss your analysis of the demand-supply gap. Focus on whether or not the gap is sufficient to sustain the project or program operation.

Marketing Plan/Strategy
- ✓ Target market based on the analysis of the demand-supply situation
- ✓ How you will package the product or service.
- ✓ How the program or product will be introduced.
- ✓ Pricing (if relevant), or cost recovery scheme
- ✓ Role of the private sector or stakeholders (whichever is relevant)

Gallery Presentation

Objective

The objective of this Gallery Presentation is to share the result of the preliminary market study with the other participants and other resource persons for the purpose of eliciting their useful comments and suggestions.

Presentation Mechanics

1. Each group will be given three (3) pieces of easel sheets on which to write their outputs.

2. The group may also paste key Tables on the easel sheet to illustrate their findings.

3. The easel sheets are posted on a space to be designated by the workshop administrators.

4. The participants are given “Remark Sheets”.

5. Beside each Poster, a blank easel sheet will be posted.

6. The participants are asked to view the posters for about an hour and write their suggestions and comments on the “Remark Sheets”.

7. The accomplished remark sheets are posted on the blank easel sheet.

8. The facilitators process the remark sheets for inputting at the critiquing session.

Gallery Presentation Template

The easel sheets may contain the following basic information:

- ✓ Target market/service users of the project or program.
- ✓ Estimate of demand and supply
- ✓ Cost recovery scheme
- ✓ Private sector participation
- ✓ Highlights of Marketing Strategy
- ✓ Key tasks to refine the market study.

Critiquing Session

Objective of the Session

The objective of this session is to impart to the participants the comments and suggestions of their colleagues, on the Gallery Presentations. The comments are expected to be incorporated into the items for further work as the participants return to their respective LGUs.

Mechanics of the Session

1. As the remark sheets are submitted, the facilitators process these by sorting similar comments. These are noted down by a lead facilitator who shall be assigned for the purpose.

2. After about an hour of viewing the Gallery presentations and writing out the comments and suggestions on remark sheets, the facilitators ask the participants to gather in plenary.

3. The lead facilitator then reads out the processed comments and suggestions.

4. The LGUs are asked to comment on the remarks.

MODULE ON THE TECHNICAL STUDY

Duration:	Eight (8) hours.
Output:	Draft Report: An Initial Technical Assessment of the Project/Program.
Requirements:	*Handouts on the subject matter* Guide to the Workshop Computer Supplies and materials Suggested Outline of the Write-up/Report Gallery Presentation Template
Facilitation:	A facilitator is assigned to each LGU to guide the activity.

MODULE OBJECTIVES

The module aims to provide the participants with the following:

1. An understanding of the basic concepts of the determination and evaluation of the technical components of a proposed project or program.

2. An experience in evaluating, at a preliminary level, the technical viability of a proposed project or program.

3. Knowledge of the information and data requirements relevant to the preparation of a technical evaluation.

At the end of the module, the participants shall have realized the importance of the technical evaluation of a project as it determines whether or not it is technically implementable.

SUBJECT COVERAGE

- ✓ Overview of the Technical Evaluation
- ✓ Determination of Technical Alternatives
- ✓ Technical Description of Project (or Product/Service)/Program
- ✓ Determination of Resource and other Technical Requirements
- ✓ Project Cost Estimation and Specifications

- ✓ Implementation and Operations Plan
- ✓ Environmental Impact Assessment

MODULE ACTIVITIES

The Module will consist of four activities namely:

1. Lecture on the subject matter.
2. Workshop
3. Gallery presentation
4. Critiquing

Lecture on the Subject Matter

A lecture on the subject matter will start off the activity. The lecture will deal with (a) Technical Evaluation and (b) Environmental Impact Assessment. The lecture will cover about one hour for each topic.

Two articles are included as handouts to the lecture. The participants are enjoined to read these materials before the lecture and workshop. These articles are:

1. "Technical Evaluation", which summarizes the process of determining a project's or program's technical implementability.

2. Environmental Impact Assessment which describes the Philippines' EIA system.

Workshop

Workshop Objective

The objective of the Workshop is to enable the participants to prepare a draft documented evaluation of the project's or the program's technical viability. The highlights of those outputs will be presented to the other participants for their comments and suggestions.

Workshop Mechanics

1. The participants will be grouped by LGUs. A lead facilitator will be assigned to each LGU.

2. The LGU team will work on all aspects of the subject matter.

3. The facilitators ensure that the participants each have their handouts, supplies and materials including report templates.

4. Using available information, references and data, the group work on the market studies.

5. Computers will be made available to the participants.

6. A Guide to Write-up is provided as a suggested report format.

7. Once all elements of the report are completed, the participants, with the assistance of the facilitator prepare a Gallery Presentation Template.

Report Format

The suggested report outline is presented in the following page. The participants may use another format however.

Draft Report: Technical Study
Project:----------
Name of LGU:_____

Overview of the Technical Options Considered
- ✓ Each option is presented with the corresponding advantages and disadvantages
- ✓ The selected option is highlighted based on a set of criteria which is explained

Technical Description of the Project/Program
- ✓ Its use or the problem it addresses (for social projects)
- ✓ Other similar products/service or program but highlight how the product/service or program you are describing differs from the others
- ✓ Scale of operation/production/delivery of service

Resource Requirements
- ✓ Technical requirements
- ✓ Land requirements
- ✓ Skill requirements
- ✓ Machinery and equipment needed

Specifications Based on the Requirements and Project Cost Estimation
- ✓ Technical specifications
- ✓ Cost assumptions
- ✓ Costings
- ✓ Investment requirements (financial and non-financial)

Implementation or Operation Plan
- ✓ Phasing, if needed
- ✓ Action plan
- ✓ Investment plan
- ✓ Schedule of operation

Gallery Presentation

Objective

The objective of this Gallery Presentation is to share the result of the preliminary technical study with the other participants and other resource persons for the purpose of eliciting their useful comments and suggestions.

Presentation Mechanics

1. Each group will be given three (3) pieces of easel sheets on which to write their outputs.

2. The group may also paste key Tables on the easel sheet to illustrate their findings.

3. The easel sheets are posted on a space to be designated by the workshop administrators.

4. The participants are given “Remark Sheets”.

5. Beside each Poster, a blank easel sheet will be posted.

6. The participants are asked to view the posters for about an hour and write their suggestions and comments on the “Remark Sheets”.

7. The accomplished remark sheets are posted on the blank easel sheet.

8. The facilitators process the remark sheets for inputting at the critiquing session.

Gallery Presentation Template

The easel sheets may contain the following basic information:

- ✓ Technical description
- ✓ Alternatives considered
- ✓ Selected option
- ✓ Summary of technical and resource requirements
- ✓ Cost estimates
- ✓ Implementation plan
- ✓ Environmental mitigation plan

Critiquing Session

Objective of the Session

The objective of this session is to impart to the participants the comments and suggestions of their colleagues, on the Gallery Presentations. The comments are expected to be incorporated into the items for further work as the participants return to their respective LGUs.

Mechanics of the Session

1. As the remark sheets are submitted, the facilitators process these by sorting similar comments. These are noted down by a lead facilitator who shall be assigned for the purpose.

2. After about an hour of viewing the Gallery presentations and writing out the comments and suggestions on remark sheets, the facilitators ask the participants to gather in plenary.

3. The lead facilitator then reads out the processed comments and suggestions.

4. The LGUs are asked to comment on the remarks.

MODULE ON ORGANIZATION AND MANAGEMENT

Duration:	Seven (7) hours.
Output:	Draft Report: Organization and Management Requirements of the Project/Program
Requirements:	Handouts on the subject matter Guide to the Workshop Computer Supplies and materials Suggested Outline of the Write-up/Report Gallery Presentation Template
Facilitation:	A facilitator is assigned to each LGU to guide the activity.

MODULE OBJECTIVES

The module aims to provide the participants with the following:

1. An understanding of the basic concepts relevant to project organization and management in the context of municipal enterprise or program operations.

2. An experience in determining the organizational and management requirements of LGU-level operations.

3. Knowledge of the information and data requirements relevant to the preparation of an organizational and management study.

At the end of the module, the participants shall have realized the importance of the organizational and management aspects of project or program development.

SUBJECT COVERAGE

- ✓ The LGU Management Structure
- ✓ Organizing for Various Stages of the Project Cycle
- ✓ The Structure vis Organizational Objectives
- ✓ Management Span of Control
- ✓ Organizational Units and their Key Functions In the Context of LGU Operations

- ✓ Management and Technical Skills
- ✓ Developing a Compensation Package
- ✓ The Organizational Chart

MODULE ACTIVITIES

The Module will consist of four activities namely:

1. Lecture on the subject matter.
2. Workshop
3. Gallery presentation
4. Critiquing

Lecture on the Subject Matter

A lecture on the subject matter will start off the activity. The lecture will deal with the organizational and management requirements of LGU projects.

Two articles are included as handouts. The participants are enjoined to read these materials before the lecture and workshop. These articles are:

1. "Management Aspects of LGU Projects: Considerations for Project Study"

2. "Organization and Management Study: Some Considerations in Developing A Project Organization"

Workshop

Workshop Objective

The objective of the Workshop is to enable the participants to prepare a draft organization and management structure for the project or program. The highlights of those outputs will be presented to the other participants for their comments and suggestions.

Workshop Mechanics

1. The participants will be grouped by LGUs. A lead facilitator will be assigned to each LGU.

2. The LGU team will work on all aspects of the subject matter.

3. The facilitators ensure that the participants each have their handouts, supplies and materials including report templates.

4. Using available information, references and data, the group work on the organization and management studies.

5. Computers will be made available to the participants.

6. A Guide to Write-up is provided as a suggested report format.

7. Once all elements of the report are completed, the participants, with the assistance of the facilitator prepare a Gallery Presentation Template.

Report Format

The suggested report outline is presented in the following page. The participants may use another format however.

Draft Report: Organization and Management
Project:----------
Name of LGU:_____

Summary of Organizational Issues Relevant to the Project's/Program's Operation

Draft Organizational Chart/Structure for the Selected Project

Preliminary Staffing Pattern

Draft Statement of Duties and Responsibilities

Employment Scheme for Various Positions

Annual Schedule of Compensation

Forecasts of Personnel Requirements

Projected Cost Associated with the Chosen Organizational Structure

Areas for Refinement

Presentation Mechanics

1. Each group will be given three (3) pieces of easel sheets on which to write their outputs.

2. The group may also paste key Tables on the easel sheet to illustrate their findings.

3. he easel sheets are posted on a space to be designated by the workshop administrators.

4. The participants are given “Remark Sheets”.

5. Beside each Poster, a blank easel sheet will be posted.

6. The participants are asked to view the posters for about an hour and write their suggestions and comments on the “Remark Sheets”.

7. The accomplished remark sheets are posted on the blank easel sheet.

8. The facilitators process the remark sheets for inputting at the critiquing session.

Gallery Presentation Template

The easel sheets may contain the following basic information:

- ✓ Organizational/Management Issues: A Summary
- ✓ Organizational Structure
- ✓ Estimated Cost Associated with the Organizational Structure

Critiquing Session

Objective of the Session

The objective of this session is to impart to the participants the comments and suggestions of their colleagues, on the Gallery Presentations. The comments are expected to be incorporated into the items for further work as the participants return to their respective LGUs.

Mechanics of the Session

1. As the remark sheets are submitted, the facilitators process these by sorting similar comments. These are noted down by a lead facilitator who shall be assigned for the purpose.

2. After about an hour of viewing the Gallery presentations and writing out the comments and suggestions on remark sheets, the facilitators ask the participants to gather in plenary.

3. The lead facilitator then reads out the processed comments and suggestions.

4. The LGUs are asked to comment on the remarks.

MODULE ON THE FINANCIAL STUDY

Duration:	Ten and a half (10.5) hours
Output:	Draft Report: An Initial Financial Evaluation of the Project/Program.
Requirements:	Handouts on the subject matter Guide to the Workshop Computer Supplies and materials Suggested Outline of the Write-up/Report Gallery Presentation Template
Facilitation:	A facilitator is assigned to each LGU to guide the activity.

MODULE OBJECTIVES

The module aims to provide the participants with the following:

1. An understanding of the basic concepts relevant to the financial and economic evaluation of a project or program.

2. An experience in evaluating, at a preliminary level, the financial viability of a proposed project or program.

3. Knowledge of the information and data requirements relevant to the preparation of the financial evaluation of a project or program.

4. Experience a process of determination modes of cost recovery through revenue capture.

5. Basic knowledge of alternative financing approaches available to LGUs.

At the end of the module, the participants shall have an appreciation of the distinctive features of an LGU project compared to those of private sector projects and ways of financing LGU identifies projects using private capital entirely or jointly. Further, by the end of the module, the participating LGUs shall have been inspired to look beyond their Internal Revenue Allotments to finance projects that need to be implemented sooner than later.

SUBJECT COVERAGE

- ✓ Overview of Financial Study
- ✓ Defining Financial Assumptions
- ✓ Methods of Cost Recovery
- ✓ Financial Statements
  - Income Statement
  - Cash Flow
  - Balance Sheet
- ✓ Financial Evaluation Methods
- ✓ Alternative Financing Modes
- ✓ Socio-economic Evaluation of Projects/Programs

MODULE ACTIVITIES

The Module will consist of four activities namely:

1. Workshop
2. Gallery presentation
3. Critiquing

Lecture On The Subject Matter

A lecture on the subject matter will start off the activity. The lecture will cover (a) Financial Assessment of LGU Projects: Concepts and Methods, (b) Socio-economic Evaluation Concepts and Methods, and (c) Alternative Financing Modes. The lecture will cover about one hour for each topic.

Articles will be handed out to you before the lecture dates specified in the Program. The participants are enjoined to read these materials before the lecture and workshop.

Workshop

Workshop Objective

The objective of the Workshop is to enable the participants to prepare an initial assessment of the financial feasibility of the project/program. The highlights of the assessment will be presented to the other participants for their comments and suggestions.

Workshop Mechanics

1. The participants will be grouped by LGUs. A lead facilitator will be assigned to each LGU.

2. The LGU team will work on all aspects of the subject matter.

3. The facilitators ensure that the participants each have their handouts, supplies and materials including report templates.

4. Using available information, references and data, the group work on the market studies.

5. Computers will be made available to the participants.

6. A Guide to Write-up is provided as a suggested report format.

7. Once all elements of the report are completed, the participants, with the assistance of the facilitator prepare a Gallery Presentation Template.

Report Format

The suggested report outline is presented in the following page. The participants may use another format however.

Draft Report: Financial Study
Project:----------
Name of LGU:_____

Executive Summary of Financial Study
This covers the highlights of the financial study.

Presentation and Discussion of Financial Statements
Income Statement
Cash Flow
Balance Sheet

Presentation and Discussion of Financial Assumptions

Financial Evaluation Results

Initial Recommendations on Financing

Further Work to Refine the Study

Gallery Presentation

Objective

The objective of this Gallery Presentation is to share the result of the preliminary financial study with the other participants and other resource persons for the purpose of eliciting their useful comments and suggestions.

Presentation Mechanics

1. Each group will be given three (3) pieces of easel sheets on which to write their outputs.

2. The group may also paste key Tables on the easel sheet to illustrate their findings.

3. The easel sheets are posted on a space to be designated by the workshop administrators.

4. The participants are given “Remark Sheets”.

5. Beside each Poster, a blank easel sheet will be posted.

6. The participants are asked to view the posters for about an hour and write their suggestions and comments on the “Remark Sheets”.

7. The accomplished remark sheets are posted on the blank easel sheet.

8. The facilitators process the remark sheets for inputting at the critiquing session.

Gallery Presentation Template

The easel sheets may contain the following basic information:

- ✓ Highlights of Financial Statements
- ✓ Highlights of Financial Evaluation
- ✓ Financing Option Considered

Critiquing Session

Objective of the Session

The objective of this session is to impart to the participants the comments and suggestions of their colleagues, on the Gallery Presentations. The comments are expected to be incorporated into the items for further work as the participants return to their respective LGUs.

Mechanics of the Session

1. As the remark sheets are submitted, the facilitators process these by sorting similar comments. These are noted down by a lead facilitator who shall be assigned for the purpose.

2. After about an hour of viewing the Gallery presentations and writing out the comments and suggestions on remark sheets, the facilitators ask the participants to gather in plenary.

3. The lead facilitator then reads out the processed comments and suggestions.

4. The LGUs are asked to comment on the remarks.

Table 1
LISTING OF MAJOR PROJECTS THAT MAY BE UNDERTAKEN BY LGUs
As Mandated Under the Local Government Code of 1991

Level	Theme	Project Type
Municipality	Agriculture	Facilities for the dispersal of livestock, poultry, fingerlings, seedlings and crops, production of seeds (nurseries)
	Agriculture	Agriculture extension facilities
	Agriculture	On-site Agriculture research facilities
	Agriculture	Demonstration farms
	Agriculture	Copra Quality control facilities and equipment
	Agriculture	Irrigation facilities
	Agriculture	Fish ports
	Agriculture	Slaughterhouse and abattoirs
	Culture	Cultural centers
	Education	School buildings and facilities for elementary and secondary education
	Environment	Water and soil conservation projects
	Environment	Mangrove conservation projects
	Environment	Coastal law enforcement facilities and equipment
	Environment	Integrated social forestry programs
	Environment	Reforestation Projects
	Environment	Communal forest projects
	Environment	Solid waste disposal
	Environment	Environmental management projects
	Health	Primary health care projects and facilities
	Health	Facilities and projects to control communicable diseases
	Housing	Housing Projects
	Infrastructure	Municipal Buildings
	Infrastructure	Public parks
	Infrastructure	Playgrounds
	Infrastructure	Municipal roads and bridges
	Infrastructure	Small water impounding projects
	Infrastructure	Artesian wells
	Infrastructure	Spring development
	Infrastructure	Seawalls and protective dikes
	Infrastructure	Drainage and sewerage systems
	Infrastructure	Flood control projects
	Infrastructure	Rainwater collectors
	Infrastructure	Municipal water systems
	Infrastructure	Public cemetery
	Public safety	Traffic control projects
	Public safety	Construction of police stations
	Public safety	Construction of fire stations

Level	Theme	Project Type
	Public safety	Construction of municipal jails
	Social welfare	Municipal hospitals and associated equipment
	Social welfare	Rural Health units and associated equipment
	Social welfare	Welfare projects (women, youth, children, beggars and others)
	Social welfare	Family planning projects
	Social welfare	Day care centers
	Sports development	Sports facilities and equipment
	Tourism	Tourism facilities
	Trade	Agro-industrial Products Marketing facilities
	Trade	Public markets
Province	Agriculture	Facilitates for the dispersal of livestock, poultry, fingerlings, seedlings and crops, production of seeds (nurseries)
	Agriculture	Agriculture extension facilities
	Agriculture	On-site Agriculture research facilities
	Agriculture	Demonstration farms
	Agriculture	Copra Quality control facilities and equipment
	Agriculture	Irrigation facilities
	Agriculture	Facilities for the prevention of control of livestock and poultry pests and disease
	Agriculture	Dairy farms
	Agriculture	Livestock markets
	Agriculture	Animal breeding centers
	Agriculture	Appropriate technology application projects
	Agriculture	Cooperatives development projects
``	Communication	Inter-municipal telecommunications projects
	Environment	Enforcement of pollution control laws and other environmental protection laws
	Health	Provincial and district hospitals
	Housing	Low-cost housing projects
	Housing	Socialized housing projects
	Industry	Industrial research and development facilities
	Industry	Investment support services
	Infrastructure	Bus Terminal
	Infrastructure	Mini-hydro electric projects
	Infrastructure	Provincial buildings
	Infrastructure	Provincial parks
	Infrastructure	Provincial roads
	Public adm	Public assembly areas
	Public safety	Upgrading and modernization of tax information and collection
	Tourism	Construction of provincial jails
		Tourism development projects

Level	Theme	Project Type
City		All projects allowed for provinces and municipalities
	Communication	Communication facilities
	Infrastructure	Transportation facilities

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Table 2
SUMMARY OF ADVANTAGES AND DISDAVANTAGES OF THREE MAJOR ALTERNATIVE FINANCING MODES (OTHER THAN LOAN)

Project Credit Financing Mode	Some Conditions Under Which Mode Is Applicable	Some Advantages	Disadvantages
Bond	• When bond rates are lower than (straightforward) loan rates. • Because most bond issuance for now have short maturities, if the project being financed has a short payback period. • If the project is revenue generating. • When local citizens and institutions are willing to "participate" in the project, not necessarily through equity.	• Less strain on the borrowing limits of LGUs, until the maturity date. Up until then, only interest payments are paid. • Lends itself more to public participation. In this way, interest payments accrue "back to the community". Therefore it can be more politically tenable. • With proper denomination, the float can be a very "democratic" way of involving the citizenry in the development of the area. • With the trustee bank's role played according to regulation, there is less risk that the finances generated from the float will be used for a purpose other than for which the bond was issued. • With legal counsel's role-played according to regulation, the interest of the investors is protected.	• Currently, bond issuances have very short maturities. • The LGU usually needs to establish a "sinking fund" to ensure payment of principal upon the bond's maturity.

Joint Venture	• When the financial investment required is way beyond the LGU's capacity to mobilize. • When the technology required implementing and/or operating the project is not accessible to the LGU. • When the current level of operation (if an on-going concern) is inefficient and the LGU is not in a position to raise the level of efficiency without straining its resources. • When there are reliable private sector parties who have expressed interest to venture with the LGUs. • When the LGU, for some reason prefers to maintain a level of participation in the project or operation. • When financing rates are high and financial resources from the banking sector are difficult to access.	• The LGU has minimal "cash-out". • The prospect of generating cash inflows from the project is higher. • Maintenance costs are minimized if not eliminated since this is assumed by the joint venture. • If the chosen venture partner is reliable and barring uncontrolled adverse occurrence, the project is likely to fare better under private sector management. • New technologies are introduced. • The LGU retains participation in the project. • There is likely to be a net investment flow into the community. • The chances of taking advantage of opportunities for the project's further growth, under private management or operation are greatly improved.	• The LGU loses "total control" over the project and its facilities. • Public perception of this "abdication" could be negative. • There is the risk of the venture partner abusing the government facility or plant and equipment that was transferred to the joint venture under the agreement; so that if the venture agreement is cancelled, the LGU is faced with a useless or depreciated facility or plant and equipment.
Build-Operate-Transfer (BOT)	• When the project being offered requires a franchise. This would include water supply and power supply (mini-hydro) projects. • Alternatively, when a "franchise situation" exists. This is a	• Minimal investment outlay from the LGU. • It allows the LGU to implement key or strategic projects by tapping private sector interest. • It will have very low, if at all, effect on the LGU's borrowing	• LGU involvement in the actual operation of the facility or project is not as substantial as in a joint venture project. • There is always the risk that the BOT investor leaves a fully depreciated facility by the time

	situation in which a condition of "exclusivity" is possible. Such a condition could result from local legislation (such as zoning requirements). Or, a combination of the existence of scale economies and LGU control over physical assets (especially land or an existing facility) in an area. Such control makes the LGU the only institution in a position to take advantage of such scale economies. • When the financial investment required is way beyond the LGU's capacity to mobilize or when the LGU simply chooses not to spend on the facility. • When the technology required implementing and/or operating the project is not accessible to the LGU. • When the project is profitable, especially if there are reliable private sector parties who have expressed interest to enter into a BOT arrangement with the LGU.	limits. • Under certain BOT types (of which there are nine), the facility or project subject of the BOT agreement is turned over to the LGU after a number of years of use by the BOT investor. • It gives the private sector an opportunity to invest in projects traditionally expected of LGUs.	the BOT agreement matures.

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Table 3
RESOURCE ASSESSMENT
HISTORICAL DATA AND SIMPLE STRAIGHT LINE PROJECTION

Year	RPTx	Bus Taxes & Licenses	Other Taxes	Rev from Opns/Ents	IRA	Total	Yearly Growth %
1992							
1993							
1994							
1995							
1996							
1997							
1998							
Aver Annual							
Growth Rate							
1999							
2000							
2001							
2002							
2003							
2004							
2005							

Table 4
HISTORICAL EXPENDITURE DATA AND SIMPLE STRAIGHT LINE

Year	General Services	Education	Health & Nutrition	Labor & Employment	Housing & Comm Devt	Social Welfare	Economic Developmer	Others	Total	Yearly Growth
1992										
1993										
1994										
1995										
1996										
1997										
1998										
Aver Annual										
Growth Rate										
1999										
2000										
2001										
2002										
2003										
2004										
2005										

Table 5
FUTURE FISCAL BALANCE

Item	1999	2000	2001	2002	2003	2004
Projected Revenue						
Less: Projected Expenditures						
Inc Capital Outlay						
Sub-total						
Less: Obligated Debt Service						
Fiscal Balance						

Table 6
CALCULATION OF DEVELOPMENT CAP

Year	Projected Reg Rev PRR	20% of PRR = A	Est Debt Cap= D
1999			
2000			
2001			
2002			
2003			
2004			

Development Cap is calculated by: D = A/ (Authorization Factor)
A Table of Amortization Factor is attached.

Table 7
TABLE OF AMORTIZATION
INTEREST RATE

Maturity	10%	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	21%	22%	23%
5	0.264	0.271	0.277	0.284	0.291	0.298	0.305	0.313	0.320	0.327	0.334	0.342	0.349	0.357
6	0.230	0.236	0.243	0.250	0.257	0.264	0.271	0.279	0.286	0.293	0.301	0.308	0.316	0.323
7	0.205	0.212	0.219	0.226	0.233	0.240	0.248	0.255	0.262	0.270	0.277	0.285	0.293	0.301
8	0.187	0.194	0.201	0.208	0.216	0.223	0.230	0.238	0.245	0.253	0.261	0.268	0.276	0.284
9	0.174	0.181	0.188	0.195	0.202	0.210	0.217	0.225	0.232	0.240	0.248	0.256	0.264	0.272
10	0.163	0.170	0.177	0.184	0.192	0.199	0.207	0.215	0.223	0.230	0.239	0.247	0.255	0.263
11	0.154	0.161	0.168	0.176	0.183	0.191	0.199	0.207	0.215	0.223	0.231	0.239	0.248	0.256
12	0.147	0.154	0.161	0.169	0.177	0.184	0.192	0.200	0.209	0.217	0.225	0.234	0.242	0.251
13	0.141	0.148	0.156	0.163	0.171	0.179	0.187	0.195	0.204	0.212	0.221	0.229	0.238	0.247
14	0.136	0.143	0.151	0.159	0.167	0.175	0.183	0.191	0.200	0.208	0.217	0.226	0.234	0.243
15	0.131	0.139	0.147	0.155	0.163	0.171	0.179	0.188	0.196	0.205	0.214	0.223	0.232	0.241
16	0.128	0.136	0.143	0.151	0.160	0.168	0.176	0.185	0.194	0.203	0.211	0.220	0.230	0.239
17	0.125	0.132	0.140	0.149	0.157	0.165	0.174	0.183	0.191	0.200	0.209	0.219	0.228	0.237
18	0.122	0.130	0.138	0.146	0.155	0.163	0.172	0.181	0.190	0.199	0.208	0.217	0.226	0.236
19	0.120	0.128	0.136	0.144	0.153	0.161	0.170	0.179	0.188	0.197	0.206	0.216	0.225	0.235
20	0.117	0.126	0.134	0.142	0.151	0.160	0.169	0.178	0.187	0.196	0.205	0.215	0.224	0.234

PROJECT DEVELOPMENT COURSE FOR
LOCAL GOVERNMENTS

REFERENCE MATERIALS

PROJECT DEVELOPMENT WORKSHOP

NEDA - PDAC

United States Agency for International Development

Governance and Local Democracy Project/GOLD

MARKET STUDY*

WHAT IS A MARKET?

The term market, in its broadest sense, refers to a geographical area or a group of people where demand for certain goods or services exist irrespective of whether or not such goods or services carries a market selling price.

Market study establishes the need for the products, services and goods of a proposed project to its target beneficiaries. A market study should be carried out for the following reasons:

- To determine whether the goods and services to be provided are required by the community or target beneficiaries; and
- To devise the necessary market plan strategies that will produce the outputs and be accepted by the target beneficiaries/users at given prices.

The various aspects examined in a market study and its results will be useful in designing appropriate marketing plans and strategies that will ensure that project outputs (products, services and goods) will be acceptable to the target beneficiaries or potential users.

There could be no discussion of the profitability of the project if there is no demand. The market study includes the following elements:

- Determination of demand of the profitability of the project's output and necessary volume;
- Target group; and
- Time frame for the demand.

* Excerpt from the "Project Development Manual", National Economic and Development Authority.

STEPS IN MARKET STUDY

A market study is necessary to determine the need for the project. It is sometimes conducted prior to a full feasibility study which seeks to determine the following:

- Size, nature and growth of total demand for the product
- Supply situation and the nature of competition
- Description and price of the product to be sold
- Different factors affecting the market
- Appropriate marketing program for the product

These detailed steps are outlined in the following discussions:

DEMAND IN PROJECT STUDY

An analysis of demand is to identify the needs of the target beneficiaries/ consumers and determine whether they are willing and have the capacity to pay for a given product. The size, nature and growth of total demand of the product may be determined as follows:

- Who and where is the market?

  Segment the market according to type, manner of use, income classification, location, age, etc. The manner of segmenting the market would depend on the type of the product being considered.

- What is the total domestic demand from the historical demand.

- Is there a foreign market? If so, determine the historical demand.

- Evaluate demand growth patterns in the past and project future demand by applying appropriate projection methods.

Below is a suggested way by which you can establish the demand for a particular goods/service/product. By following the steps below you will be able to define the demand for your project's goods/services/products.

How to Establish the Demand for the Project	
Step 1:	Describe Target Beneficiaries or potential users of products, goods and services of the project. Focus on their present socio-economic conditions and their geographical location. Include information on education/skills levels, ownership and/or access to resources, etc. Information on age, ethnicity or other social characteristics may also be required. A particular attention is now given to gender concerns in product preparation i.e., gender information is vital in order to ensure that the specific needs of women and men are pertinently addressed by the project.
Step 2:	Segment Target Beneficiaries. There is a need to distinguish two categories of beneficiaries: (1) the direct beneficiaries: and (2) the indirect beneficiaries. The direct beneficiaries are the actual recipients or users of the products, services and goals to be delivered by the project. The delivery of these products, services and goods might result in other people, not initially included in the list of project beneficiaries, availing or benefiting from the project. These are referred to as indirect beneficiaries.
Step 3:	Describe the current socio-economic situation of the target. Description of their situation should be anchored on the problematic aspect of their lives where the project is expected to have a greater impact. Their current situation should be the logical reason why they will use or avail of the products, goods and services of the project. *Specific figures and statistics should be cited.*

Determining the supply situation is important in doing the demand supply analysis later on.

How to Establish the Supply of the Project	
Step 1:	Who and where are different competitors. Classify them according to size, product quality, location, performance and market segment performance. The type and competition in existence would influence the decision on production capacity and marketing strategies.
Step 2:	Determine historical domestic supply as consisting by local production and external production which could be normally called imports.
Step 3:	If there is an external market, determine the historical supply patterns in the targeted communities as consisting of their local production and imports.
Step 4:	Evaluate supply and growth patterns and project future supply by applying appropriate projection methods.

Once you have done the above, you are ready to establish the demand and supply of your particular product. You should now do the following:

How to do the Demand and Supply Analysis	
Step 1:	Compare the demand and supply trends.
Step 2:	Determine the unsatisfied amount of demand. If demand appears to be fairly satisfied by supply, consider: • Whether the factors affecting the market may disrupt the equilibrium so as to cause demand to grow faster than supply or • Whether the quantity of the product is such that it may create additional demand or redirect part of the existing demand in its favor
Step 3:	Determine the market share using the proposed production volume (this is done in consideration of the technical analysis) as against the total market size).
Step 4:	Conduct a price study.

How to do the Demand and Supply Analysis	
Step 5:	Identify other factors affecting the market.
Step 6:	Draw up a marketing plan.

PRODUCT DESCRIPTION AND PRICE STUDY

The following consideration with regard to product description and price study should be noted well.

- Name of the product
- Properties of the product
- Uses of the product
- Major users of the product

In economic theory, price is determined mainly by the demand-supply situation. An increase in demand with supply constant will hike the prices. The reverse would result in the lowering of prices. There are, however, other factors which assert some influence on the price. Without any change in demand or supply, prices may go up if inputs such as raw materials cost rise; or prices may decline if the government decides to subsidize production. Keeping all these in mind, the price study may be conducted as follows:

How to do the Price Study	
Step 1:	Determine the selling prices of all similar and substitute products.
Step 2:	Determine the historical pricing of these products (including the range and fluctuations) and establish the factors that will establish their fluctuations over time.
Step 3:	Determine the responsiveness of demand to price changes.
Step 4	Establish the product's selling price.

It would also be helpful for those not familiar with the very technical aspects of market analysis to include in this section the factors that affect the market. These factors may be quantified or predicted:

- Demand may be significantly affected by population growth, income changes, taste, rural/urban development, prices of substitute and complementary products, credit policies, etc.

- Supply may be influenced by the development of substitute products, the entry or exit of firms, government policies, technology availability, etc.

- Prices may be affected by production costs, price controls, inflation, price of substitutes, etc.

How to Prepare Marketing Plans and Strategies	
Step 1:	Describe the delivery channel. a. Describe the distribution strategy for the products, services and goods of the project. This includes discussion on the: • Place where the product, service and goods can be made available • Procedures on how the target beneficiaries can avail of the product, services and goods b. Describe the promotions strategy. This includes discussing the different media that will be used to convince the target group that what the project is offering will meet their requirements or address their concerns. Information dissemination on how they may avail of the project's products, services and goods should also be tackled. c. Identify and describe organization that will be responsible for the delivery of the products, services and goods. If this will involve the community, explain how they can prepare themselves to carry on the responsibilities required of them.
Step 2:	Compute for affordable pricing. a. Determine the amount that the target beneficiaries will be willing to pay or shoulder for such services vis-à-vis their capacity to pay. Note!

How to Prepare Marketing Plans and Strategies	
	People may be asked to pay for the availment of such services or products so long it is reasonable and within their reach. It is important that the capacity of the people to pay be considered before a fee is decided upon and to be able to decide whether subsidizing these fees will be possible. *b.* Decide upon the amount that will finally be levied upon the target beneficiaries. Consider the following in deciding*:* • *Cost of project (direct materials, direct labor, indirect cost (overhead)-imputed cost);* • *Fees being charged by other agencies* • *Perception or the going rate base (prevailing price in the market).*

CONCLUSION

The market study therefore includes two stages: the collection of data and the establishment of empirical basis for their elaboration and analysis. Data collection is part of identifying the needs of consumers or what you call beneficiaries and determining whether they are willing and have the capacity to pay for the goods/services/products.

TECHNICAL STUDY*

The technical aspect of the project attempts to determine how well the technical requirements can be met in terms of location, size, basic technical features, resource requirements, and phasing of implementation among others. There are important concepts which need to be understood in doing a technical study for the project. Later in the discussion, the stepwise process to be followed shall be presented.

1. Preliminary research and testing for ensuring applicability of the technology requirement of the project. This refers to testing the applicability of the technology.

   Examples would be in terms of infrastructure projects, a certain amount of preliminary test and research is needed. These tests include varied considerations such as simple strength tests of the site for the construction of buildings; laboratory or pilot plant tests of the possibilities of using certain raw materials or processes and the condition under which such uses will be possible; experiments with new crops, etc.

   In preparing the technical feasibility of the project, it needs only to contain a clear summary of the information regarding the description of the tests undertaken for the project, the complete text of the reports may be attached as appendices.

2. Selection of the production process. The selection of the production process for a particular project should offer solutions as tot he fitness of the identified technical requirement. Means of production should be elaborated.

3. Specification of equipment to be used. There are two stages in the selection of equipment:

   - Choice of the type, in order to draw up the specifications for the bids, and
   - Selection between the various equipment of the type chosen in order to decide between the bids

* Excerpt from the "Project Development Manual", National Economic Development Authority.

Selection of the type of equipment will be influenced by the nature of the process, the scale of production and the degree of mechanization, all of which are closely interconnected. It may often happen, for instance, that a certain degree of mechanization is only applicable for a certain production level, and similarly certain processes end themselves better to mechanization than others. The type of production is thus related to the degree of mechanization and automation.

4. Location, buildings and site layout. The technical feasibility analysis of a project depends largely on location, as substantial differences usually exist in the availability, quality and costs of the various requirements in an alternative location. Projects whose technical requirements could have been well taken care of in one location sometimes fail because they are established in another place where conditions are less favorable. In other words, a project situated in a location that is remote from services and supply sources such as experienced labor force, market, raw materials, utilities and other requirements would be operating with disadvantages.

   For instance, an engineering project should include estimates of the size and characteristics of buildings required for production and site layout. For agricultural projects, this will include post-harvest facilities, warehouses, and the like; for projects like quarrying, will require buildings for housing machinery, workshops, etc. The problem acquires special interest in the case of a manufacturing industry, because the distribution of the industrial buildings has an important bearing on the handling and flow of raw materials, and finished products.

5. Plan layout. The efficiency of a project such as manufacturing operation depends to a great extent on the layout of the plant and equipment, since this can lead to economy in movement and the flow of material and processes thereby saving time and money. Some other factors which need attention in plant layout are:

   - Storage space for raw materials and suppliers;
   - Space for internal transport;
   - Utilities/service system including waste disposal;
   - Future expansion flexibility
   - Environmental considerations

6. Supplementary engineering works. There must be a consideration for additional requirements for the production process needed.

Considerations of these supplementary work arising from the project's technical requirements must be well thought of. An example of such is a power project, where considerations for instance on electric power, source of water, and similar items will be more precise.

7. Efficiency. Refers to how the project is able to produce the good or service in the most efficient way.

   For instance in a particular post-harvest facility production, once the size of the plant and the arrangement of equipment and buildings have been decided, it will be possible to calculate the volume of each type of input required by the project, both for installation and operation. Once the volume has been determined in physical terms, operating and input costs can be estimated. Moreover, the volume serves as a useful element of comparison when appraising the estimated administrative and operating efficiency of the project.

   The volume of input according to the physical processes employed, the quality of available raw materials and the experience of other plants, can be estimated with the help of preliminary technical research. In addition to the purely technical factors, these estimates should also take into account the project's general administrative and technical organization and the quality of the available labor.

8. Flexibility of productive capacity. The need for flexibility in productive capacity is at times a result of seasonal demand. In other instance, it may depend on temporary limitations in the availability of raw materials or tight financial situation.

9. Work Schedules. The schedule of project implementation from project preparation through project start-up and the identification of potential causes of delay are one aspect of technical study. There must be realistic schedules which not only include all activities from engineering design through land purchase/acquisition, construction and procurement, to testing of equipment and training staff necessary for the successful completion of the project. These schedules should be arranged in a coherent sequence. The estimates of realistic schedules in terms of timing and cost are drawn up from experience with comparable projects in the same or similar environment.

10. Size of project. The size of the project usually means its production capacity during a normal operating period. Owing to the need for capacity and provision for operating flexibility to meet demand fluctuations, the

normal output will seldom be 100% of the installed capacity. Size is sometimes expressed in terms of the number of persons employed, the capital involved, etc. However, whatever unit of measurement this may be, the optimum size and the best location will be those which will lead to the most favorable financial result. Some important factors in considering the size of the project are:

- The volume of demand to be met
- Relationship between size or scale of production and technique and investment
- The relationship between size and location or the geographical distribution of the market
- The problem between size and financing or capital resources of the project
- Administrative experience and capacity

The technical aspects of the project cover both engineering and non-engineering areas. It would be advisable that a checklist would cover basically all those that have been mentioned above. It would be best if, during the early stages of project design and preparation, technical specialists be consulted to ensure that project activities are technically feasible and compatible with local conditions.

The application of technical study provides the important areas to be closely examined which would establish reliable estimates of project costs, based on detailed design and engineering.

CONDUCTING A TECHNICAL STUDY

After giving you some conceptual understanding of the technical aspect of a project proposal, the following discussions will simplify the concepts elaborated above. For purposes of initially establishing the technical feasibility of the project needed in proposal preparation, we have simplified the process that otherwise would sound too difficult to understand by those not having technical expertise to do so. The steps outlined below will facilitate your initial work.

Suggested Steps in Undertaking a Technical Study	
Step 1:	Description of the Products, Services and Goods of the Proposed Project. a. Identify the different output components of the project as reflected in the logical framework you prepared for the project. b. Define the type and nature of the products, services or goods to be delivered by each output component. Elaborate on the quality or product/service required. c. Define the specific uses of these products, services or goods from the perspective of the target beneficiaries. d. Describe the size of project. This usually depends on the number of target beneficiaries, size of the target geographic areas, amount of available project funds, duration of project life, among other things.
Step 2:	Raw materials procurement/processing a. Raw products are those that will be needed by the project. They are different from consumables. The following are the areas to be considered when checking requirements for raw materials processing: • Raw materials (basic as well as substitutes) • Type of raw materials • Quantity required • Quality indicators • Source • Bulk sizes • Cost • Conversion ratio (from raw materials to finished goods) *Note*! Above consideration must be adopted to the kind of project. b. For each of the products, services or goods identified, determine the following production factors: • Equipment requirements;

Suggested Steps in Undertaking a Technical Study	
	• Skills necessary for production/completion of the project; • Number of workers required to achieve the goals/results required at a specified time. c. Identify sources of raw materials and other production factors
Step 3:	Component Processing It is here that the different raw materials are transformed into the goods, products or services as required. List the components of each product and the component form. There should also be alternative inputs where the primary components are unavailable. If possible, discuss the engineering requirements where the setting up of a physical plant is concerned as well as its maintenance requirements (availability of spare parts etc.). Details on the process or cycle of operations for each component would also be useful. This is where a choice between a labor intensive process (which is cheaper, but quality of product cannot be assured as outputs are difficult to standardize) and automation (where quality of product is better, but it ids more expensive) is made. Alternative or innovative methods should, likewise, be discussed. In adopting certain technical operations or processes, the following may be considered in order to arrive at an appropriate means of operations: • Technology or production process • Size or scale • Location • Timing of implementation It is important too that the duration for each process or cycle of operation be stated as well as the specification of quality indicators.

Suggested Steps in Undertaking a Technical Study	
Step 4:	Identify the means of procuring the needed resources a. For materials that can be directly charged to the project funds, discuss legalities or procedures Involved in procuring the required materials that are normally procured by an institution. b. For materials that will be contributed by other agencies, groups of people or by the beneficiaries themselves, discuss the strategies of the project in securing these materials for the project.
Step 5:	Identify delivery channels a. Determine project accessibility and the distribution plan. It would help to describe the location of the products, service and goods that are to be provided by the project. If facilities are to Be put up, present their physical location and how accessible they are to the people. b. Discuss the potential environmental impact of these facilities, the investment climate, particularly, readiness of the people in terms of monetary and social costs. c. If it is required for the fulfillment of the project, discuss delivery or physical transporting, storage and distribution of services or goods.
Step 6:	Phases of Implementation a. Identify specific events that will affect implementation of the project, e.g. rainy season, change in political leadership, budget cycle, availability of project funds, among other things; b. Identify specific project activities that will be affected by external factors; c. Chart the schedule of implementing the various project activities.

Once you have followed these steps, it would be easier to formulate a technical description of your proposed project. Bear in mind, that the very technical aspects of the project should be responded to by experts for particular fields.

TECHNICAL EVALUATION*

What is the purpose of this guide handout?

This handout shall provide its readers basic concepts in the identification and analysis of the technical components of a proposed project. It shall also provide the readers with real case scenarios to give them insights on the variations in the technical evaluation of the different types of projects.

After going through this guide handout, the readers shall have a working knowledge on how to proceed in the technical evaluation of a proposed project, citing the alternative that is most technically viable for the proponents. The readers shall also gain some understanding on how to prepare the project cost estimates, specifications, a preliminary listing of technical personnel, and a draft implementation and operation plan.

What are the fundamental considerations in making a technical evaluation?

This guide handout shall address the following key ideas:

- Concept of Technical Alternatives
- Technical Description of Project and Products
- Resource and other Technical Requirements
- Project Cost Estimates and Specifications
- Implementation and Operations Plan

What is the concept of technical alternatives?

It is possible that several alternative solutions to a problem situation may be identified. Basically, This is the concept of technical alternatives, that a problem situation may be addressed by two or more approaches. One example is the problem of a town who has no post-harvest facility and would have to travel some rough terrain in order to use the next available grain center. This problem has caused for many produce to rot. The town officials may address this problem situation in at least two ways; either put up a grain center within the town or upgrade the access road between the two towns. Both are infrastructure projects that can be adapted by the town officials.

* Prepared by Jose Serafin Y. Tecson.

If a project can be done by phases, then this phased development option should be considered as another technical alternative since the parameters are different from that of the one-time implementation project.

What are the main considerations in forming alternative technical solutions?

There are four main considerations in identifying alternative ways of addressing a need or opportunity. Studying the technical and social feasibility of each alternative shall serve as the basis of a sound project proposal. These four main considerations are technology or production process, size or scale, location, and timing of implementation.

The first consideration is the identification of alternative technologies or production processes. This pertains to variation in product type or product technique. Variation in product type may apply to the products' physical and chemical properties, nature and extent of services, methods and form of delivery, and the scope of the target market. The level of quality or service levels, the product range defining either a by-product or multiple-line production, and stages of the delivery process may also define the nature of the product.

Variation in product technique refers to various technical processes, methods, means or approaches. The different types or combinations of equipment, raw materials and supplies may also define the variations. The variations may also show in the levels of technology or in the degrees of labor intensity and automation. However, examining several factors affecting production techniques may narrow down the number of alternative production techniques. These factors are availability of raw materials, technology, and equipment, costs of production and marketing, size of the market and profit margin per product, and the economic and social impact.

The second consideration is the determination of alternative sizes or scales. This pertains to the capacity to supply goods or services demanded over a period of time. It may also be defined by the project cost, employment created and geographical scope. Variation in project size is influenced by several factors; these are volume and nature of demand, production process, physical resource base and transport costs. Volume and nature of demand is a question of idle capacity or future expansion. Certain production processes require a minimum scale of operation to effect an economical operation. The physical resource base pertains to availability and cost of primary and intermediate production inputs such as capital, labor, power, water, raw materials, and others. The transport

cost highlights the trade off between size and location - small units in several locations or one centralized unit of operation.

The third consideration is identifying alternative locations. The geographical distribution of demand or the dispersion of the target market is a major consideration in determining both the number and specific locations of service points or outlets of project. The transport costs of inputs to the project and transport costs of outputs to the market should be kept to a minimum. Several sites may also be considered. The nature of the production process or availability of natural and human resources as project inputs may also dictate upon the identification of alternative locations. The location may also be governed by a priority objective of stimulating growth in an area, or locating where raw materials and labor are abundant and underutilized. Other factors that may govern in the choice of location are zoning regulations, transport generating points, technical requirements of location-specific projects such as thermal plant, airport, or housing, and project outputs such as perishable goods.

The fourth consideration is determining alternative timing of implementation. Timing refers to the schedule of the various activities involved in the implementation and operation of a project. The level of output pertains to minimizing idle or unused capacity. Such is the case in water supply projects. Funding constraints where exceptionally large budget makes it hard for full implementation may lead to adapting a time-phased implementation of the project. Technical factors refer to methods that will consider slack period or availability of resources and other inputs. Natural factors refer to weather and other climatic conditions. Social factors refer to direct participation of target market or beneficiaries to the project in which case consultation or training of potential market should be considered. For time-phased implementation, several inherent disadvantages are closely associated to this alternative. These are additional costs, dwindling of market participation if the project is community-based, possible loss of momentum or enthusiasm of proponents, and possible loss of support of local leaders.

What are the frequently asked questions when forming technical alternatives?

1. What are the factors contributing to the problem? How does it contribute?
2. What interventions can be implemented to mitigate this problem?
3. What other ways can we go about the problem?
4. How does human factor fit in the problem situation?
5. Is this really the best approach under the present condition?
6. Can this be implemented by phasing?

Sample Case:

Problem Situation: A coastal municipality has a problem of transporting passengers, goods, equipment, etc. from their upland farms to a nearby urbanized municipality because roads are non-existent, causing many produce to rot.

Technical Alternatives: Sea transport or roads and bridge project connecting both municipalities.

What happens next after identifying the different technical alternatives?

The planner should organize all the preliminary data he has gathered on the technical alternatives. It is also an opportune time to validate some of the data to make the playing field of the different alternatives even. The way the alternatives are presented and compared to each other may be left to the discretion of the planner.

Technical features may apply to the product, the process, the plant or facility, or equipment/machinery. Required resources may signify water and electricity requirements after start-up, land area requirement, construction and acquisition costs of infrastructure, availability and cost of support facilities, raw materials and consumables requirements, operational requirements, etc. All these may form part of the criteria the LGU may set as basis of comparison for the alternatives. If there is only one option, the LGU may just proceed in organizing the presentation. The objective is to illustrate to the readers clearly what the project would look like, or how it will operate or function, what would it require to become operational or when it is already operational, and the distinct advantages it may offer.

Sample Case: Template

CRITERIA FOR COMPARISON	POWER GENERATION (Hydro)	POWER GENERATION (Diesel)
1. Building Structure	Mini-Hydro Dam – P ? M	Diesel Turbine – P ? M
2. Equipment/Structure	"Brand X" P ? M	"Brand Y" P ? M
3. Land Acquisition	Without Cost	?
4. Access Roads	Trail path only	Accessible
5. Advantages	• Low Maintenance	• Higher output appr. 500 HH
6. Disadvantages	• Affects water supply volume	• Black Emission

More details are better. Advantages and disadvantages must be taken from varied points of view, from proponents, to contractors, users, neighboring civilians, maintenance man, politicians, an environmentalist, and from anybody who has a stake in the project.

Then on the basis of the technical features, required resources, inherent advantages, costs, personnel requirements, and availability of study data, the planner must decide which technical alternative would be the best technical alternative solution to the problem situation. If there is only one option, the planner may just review his set criteria and enhance the presentation of the option as the best technology or approach to the problem situation.

What goes into the technical description of the project and products?

Based from the narrative description of the project and products as well as from the output of the market analysis, make a detailed technical description of the project and products in terms of the following where applicable:

Scope and Limitations of the Project
Characteristics and Size of Beneficiaries or Target Market
Location and Access Routes
Geographic or Service Area Size
Size/Rate/Capacity of Machinery and Equipment to be used
Specific and Auxiliary Uses of Products
Basic Technical Features of Process, Plant, and Product
Manufacturing/Production Processes and Cycles
Types and Sources of Raw Materials
Reference Time of Implementation

These are basically decision points. They are largely a factor of market demand and the availability of resources. It also addresses the root cause of the problem situation or issue. This puts a face to the proposed project. It specifies the boundary and the limits with which the project shall be implemented.

What are the frequently asked questions in formulating the technical description of the project/products?

1. What will be the size of the market to be accommodated?
2. How will the services be implemented?
3. What type of infrastructure development is needed?
4. What equipment will be utilized for this operation? What capacity?
5. Where will it be constructed? Why?
6. What kind of product is best suited for this climate?
7. What is the condition of the access roads? Should we relocate?
8. How will the operation be upgraded?
9. What is the primary use of this facility? Secondary use?
10. How long is the project life?

Sample Case:

Project: **Barangay Water Supply System Level III**
Product: Potable Drinking Water

The project shall be located in Barangay Masagana, 8 kms from Poblacion, Centro. Barangay Masagana is a populated area, mostly residential. The proposed water system shall be level III in nature and shall serve a household population of 360 at base year (y2000) with average HH size of 5. The source of the water system is deep well type with a bore hole/casing of 4 inches. It will utilize a 3 HP motor that will deliver water to an elevated GI tank with a capacity of 45,000 gallons. Both deep well and tank shall be located at the burol area of the municipal compound, 3 kms from the center of Brgy. Masagana. The main transmission lines and river crossings shall utilize assorted sizes of GI pipes (100 to 50 mm dia) while distribution pipe shall use assorted sizes of uPVC pipes (75mm to 50 mm dia.). Tapping points shall utilize 18mm to 12mm Pb tubing and brass fittings for proper connections. The water supply shall be used mainly as a source of potable drinking water and shall be maintained safe and clean based on acceptable standards. For this system the well output shall be maintained at 6 lps to be able to sustain supply until year 10. The project shall also consider the operation and maintenance of the water system by the LGU within the project life.

Note: This can be done also in tabular form.

What are the items to be considered in evaluating the resource and technical requirements?

After pinning down the components of the project and its products, the data pertaining to capital requirements like building, site development, and equipment, fixtures and furniture, supplies and materials for operations and maintenance to include communications and transport equipment, and utilities like water, power, and fuel may now be generated. Other data that need detailing concerns the land, climate, topography, access roads, waterways, etc. Plan out a strategy on how to approach data gathering and the consolidation of these informations.

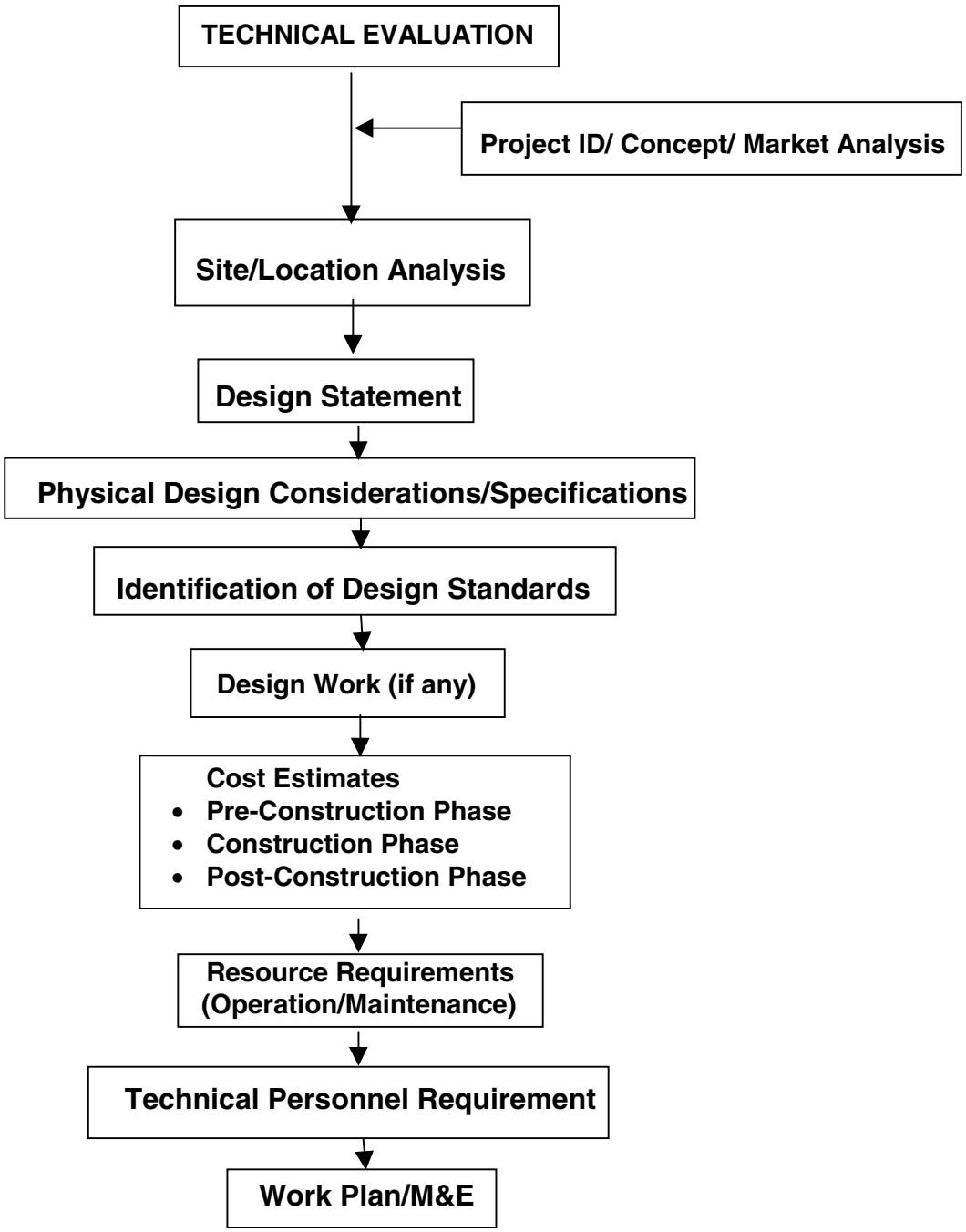
Set the limits or extent of the data gathering. There are informations that can be provided by the project development specialist and those that will need assistance in getting. The extent or latitude of information that will be used may be set to a comfortable level of acceptability. This way the planner will not be overwhelmed by so many considerations and an overload of information.

For capital requirements, determine whether there is a need for infrastructure and equipment. Given the capacities, the design of buildings may be governed by building standards and safety and structural codes applicable in the chosen location. The fixtures and furniture can be identified along this same process with the aid of an engineer or architect. Site development includes but is not limited to water supply, electric power supply, drainage system, wastewater system and treatment facility, perimeter fence and gates, security lights and posts, roadways and path walks, parking lots and landscape, etc. The choice of equipment is influenced by the nature of the project, scale of output, costs and availability of spare parts, performance reliability, installed capacities and provisions for flexibility, geometric characteristics or dimensions, structural features, characteristics of raw materials, and manner of operations.

If the operation and maintenance of the facility are lumped together with the project as an integral component, supplies and materials requirements should be itemized. In order to do so, the operation process and maintenance cycle should be identified first through a flowchart or checklist.

The planner should specify the use and quantity required, alternative sources, local unit costs, and availability of electricity, fuel, and water both for pre-operating activities and actual operations. This shall be based on the implementation or construction plan and in the preliminary flowchart or checklist of operation process and maintenance cycle.

For infrastructure or infrastructure-related projects, the following flowchart can be used as a guide in the study and planning stage as well as a follow-through activity after the project development training-workshop:



Sample Checklist:

PROJECT: Ice Plant and Cold Storage Facility

DATA/INFORMATION	CONSIDERATIONS	SOURCE/S
1. No. of Fishermen	1,085 pax	MPDC, Census 1995
2. Capacity of Refrigeration	?	Supplier
3. No. of Fish Pond Owners	258 pax	Market Survey, 1999
4. Amount of salt/price	?	Supplier
5. Cost of 6" I-Beam Steelx10m	P 1,965.00/pc	Mun. Treasurer

Sample Case:

Project: Agricultural Estate
Product: Agricultural Lots

List of Data Needed:

Agricultural Land Area
Types and Capacity of Machinery/Equipment
Types and Sizes of Tools
Irrigation System
Buildings and Structures
Transportation Equipment

Other Info: Describe the estate site and the developments that are needed to establish the estate. Discuss whether the land is to be purchased, is currently owned by the LGU or will be provided by another sector. It must be determined also the suitability of the terrain and sub-terrain of the proposed area for an agricultural estate.

Sample Flowchart:

Project: Municipal Products Display Center
Product: Promotion of local craft/Product Information
Category: Non-income-generating project

What actions may be undertaken to address data gaps?

Data gaps are commonplace at the onset of the technical evaluation phase. Other data are even too hard, impossible or too expensive to obtain. The planner should exercise prudent discretion in identifying which data are indispensable or which may be safely assumed. The data needed may not be available from the most available data bank. In which case, the planner must be resourceful in producing or soliciting these informations. There are several ways how to handle this.

- Engage the services of other line or national agencies such as the DPWH, DILG, DOH, DSWD, NIA, NWRB, DEnR, DOTC, LWUA, IRRI, NAPOCOR, other GOCCs, etc. for either services and information
- Establish linkages with NGOs, Foundation Centers, Public Research Centers, Quasi-Government Institutions, and Foreign Missions
- Request technical assistance from National Government or Provincial Government for services or information that may be available from them
- Consult with your local Water District, LWUA or Waterworks Association, Electric Company or MERALCO or other utility companies regarding present and projected rates.
- Consult with or solicit quotations from suppliers, contractors, fabricators, traders and manufacturers for specialized items such equipment and machinery
- Get secondary data by conducting focus group discussions in your target market
- Go to libraries, research institutions, or personal library and do own research

What are the major cost items for public investment projects?

The project cost should not be confused with operations cost. The project cost is usually referred to as the initial capital outlay. The operations cost pertains to all expenses incurred when the project is fully operational. This includes but not limited to maintenance, raw materials, salaries, chemicals, insurance, fees, transportation, office supplies, benefits, water and electric bill, etc.

In coming up with the total project cost, it is important to identify all cost components attributable to the project; examples are building, equipment, transportation, machinery, site development, computers, fixtures and furniture, electrical, drainage, and water facilities, etc.

The costing should be based on actual canvassed prices or a close approximation of industry prices and rates. A legend or a footnote should be indicated to show price index of the year in consideration. The pre- and post construction expenses should also be included in the construction costs.

If the mode of implementation shall be done by administration, labor cost may be adjusted accordingly but the mode of implementation must be indicated by way of a footnote or legend. In the same manner, all assumptions or assumed data must be indicated as so for review or validation later.

Following is the list of major cost items for consideration in projecting the cost estimates and declaring the specifications of the project:

A. Planning and Development Phase (may or may not be included)

1. Feasibility or Project Study
2. Pre-Engineering Activities

B. Investment Expenditure

1. Mobilization or Start-up Costs

Organizational Expenses, Bonds, Permits and Clearances
Recruitment of Personnel
Personnel Training
Legal Services
Temporary Housing for Employees, Field Office
Operating Expenses during start-up of project implementation

2. The Site and its Preparation

Cost of Land and Site Preparation
Drainage Works
Raw Materials Storage
Materials Testing, Line Survey
Access Roads or Waterways

3. Construction

Foundations
Buildings (including specialty works including pest control, insulation, etc)
Water Supply System (wells, tanks, pump sets, etc.)
Connection to electricity mains, the telephone systems,
Cable/LAN/PABX system, gas supply
Waste Disposal
Equipment and Power Tools Purchase or Rental
Security Services during and after construction

4. Equipment and Materials

Machine and Machine Foundations
Machine Installation Costs
Testing and Start-up
Prime Movers
Electricity and Telephone Facilities and Equipment
Electrical Equipment
Internal Transport Equipment
Office Equipment and Supplies
Office Computers, Printers, and Accessories
Maintenance and Cleaning Equipment
Taxes, Duties, and Transport and Insurance Costs

5. Replacement Parts

The cost of a basic stock of spares may be estimated at approximately 20 % of the total cost of the equipment and materials listed under item 4.

6. Development Services

Professional and Technical Staff
Administrative Staff
Other Support Staff
Testing and Quality Control
Transport, fuel, and Maintenance
Office Rental, Utilities, and Upkeep
Supplies, Materials, Safety and Protective Gears and Instruments
Delivery Charges, Freight, Handling
Publications, Documentation, Signage
Staff Training, Benefit, Insurance, Bonuses
Security Services
Other Operating Expenses

7. **Technical Assistance**
   Consultancy Engineers
   Long-term Consultants
   Short-term Consultants

8. **Working Capital during actual Implementation**
   Stocks of raw materials and requisites stocks of intermediate products
   Payroll and other administration expenses

9. **Provision for Contingencies**

C. Operating Expenditure

1. **Purchases**
   Materials
   Fuels
   Maintenance Parts
   Workshop Supplies
   Office Supplies

2. **Personnel Expenses**
   Wages and Salaries
   Allowances and Benefits
   Social Security Commitments
   Staff Training

3. **Taxes, Duties, and Registration Fees**
   Direct taxes and duties (licensing, land, municipal or city taxes, registration fees for deeds and contracts)
   Custom Duties

4. **Work, Supplies, and External Services**
   Equipment Rental
   Maintenance and Repairs
   Works by outside Firms on contract basis
   Water, gas, and electricity suppliers
   Continuing studies, research and documentation
   Security Fees

5. **Transport and Travelling**
   Personnel transport operating and maintenance costs
   Freight

6. **Overall Expenses**
   Rent and Utilities
   Communication Expenses
   Insurance Premiums
   Legal Documents and Litigation
   Administration of Grants and Contributions
   Cost of Consultations, Meetings, and Representations
   Financial Management and Control

What are the frequently asked questions in deriving project costing and specifications?

1. How much is the total project cost?
2. What material would be used for the columns? Steel or concrete?
3. What material would the users prefer for this room?
4. What are the operational cost items? At year 10?
5. Which ones will be depreciated over ten years? How much?
6. How much would this equipment cost?

Sample Case: Template

Project: Construction of new District Hospital
Product: Primary Healthcare Services
Floor Area: 20m x 40m x 2 floors = 1,600 sq.m.
Land Area: 4,000 sq.m.

COST ESTIMATE:

ITEM	PARTICULARS	AMOUNT (Pesos '000)
1.0	Land Acquisition (2 hectares)	2,000
2.0	Site Development (see Schedule 1)	360
3.0	Building (See Schedule 2)	8,000
4.0	Machinery and Equipment (see Schedule 3)	500
5.0	Transport Equipment (see Schedule 4)	2,100
6.0	Office Equipment (see Schedule 5)	460
7.0	Furniture and Fixtures (see Schedule 6)	250
8.0	Generator Set 2.5 HP	490
9.0	Water Supply System (see Schedule 7)	300

Schedule 2.0: Building

ITEM	PARTICULARS	QTY	UNIT	UNIT COST	SUB-TOTAL
1.0	Portland Cement	450	Bags	98.00	44,100.00
2.0	White Sand	32	CuM	350.00	11,200.00
3.0	G1 Gravel	45	CuM	450.00	20,250.00
4.0	16 mm Corr Steel Bars	75	Pcs	76.00	5,700.00
5.0	¼ in Plywood	16	Pcs	260.00	4,160.00
6.0	GI Wire Ga. 16	1	Kl	32.00	32.00
7.0	CHB 6”	2,650	Pcs	6.50	17,225.00
8.0	GI Corr Sheet Ga. 20x10’	57	Shts	210.00	11,970.00

After identifying the best technical alternative, qualifying it and assessing its cost, what’s next?

The planner after determining the technology or process that will be adapted in the project should then draft a preliminary list of personnel with special skills or training who will manage and operate the project. This shall serve as a preliminary input for the subsequent analysis of the organization and management set-up.

Suggested Template:

ITEM	SKILLS REQUIREMENT AND FUNCTIONS	(QTY) MANPOWER	SALARY BRACKET (CLASSIFICATION)
1.0			
2.0			
3.0			
4.0			

How is the work plan done?

Different planners have their own system in presenting the implementation and operation schedule or work plan of a project. If the planners are also the implementers and they feel comfortable in using their existing methodology, it is advisable for them to use it. Some pointers in making the implementation and operations plan:

The activities and sub-activities identified must be supported by specific objectives and desired outputs. All activities identified must be indicated as

detailed as to the extent that the planner is comfortable with. All activities must identify all resource mobilization that they will entail in trying to meet the objectives (manpower, equipment, financial support, policy support, clearances, etc.). This will help implementers to schedule procurement and usage of resources. Persons-in-charge or responsibility centers should also be indicated.

Milestones are indicated as desired targets. It is better to show the chronological relationship of one activity to another, to determine the critical path and sensitive activities.

All activities and sub-activities must be sustainable, measurable, attainable, realistic, and time-bounded. The planner in preparing the implementation plan may exercise some flexibility in affixing appropriate time intervals for each activity.

Suggested Template:

MILESTONES	ACTIVITIES	RESPONSIBLE CENTERS	DURATION	RESOURCE REQUIREMENT	REMARKS
	Major Activity Sub-activity				

How should the draft output be presented?

Before the draft output is formatted and presented, the data derived during the workshop or in the follow-through activities should be validated. This is to pinpoint loose ends and other data gaps in the output of the workshop. A second look from an independent critique will also help improve the output.

Documentation is very important. It provides details that make the understanding of the report much easier. It also helps facilitate for a better implementation when fund-raisers and project implementers have references that are readily available and detailed in presentation.

The output documentation must be consistent with the output of the previous activities/steps. Otherwise it shall bring about confusion to the readers of the

report. If changes were realized and adapted at this late stage, adjustments or corrections must be made on the outputs of the previous steps.

Draft Report: Technical Study
Project:----------
Name of LGU:_____

Overview of the Technical Options Considered
- ✓ Each option is presented with the corresponding advantages and disadvantages
- ✓ The selected option is highlighted based on a set of criteria which is explained

Technical Description of the Project/Program
- ✓ Its use or the problem it addresses (for social projects)
- ✓ Other similar products/service or program but highlight how the product/ service or program you are describing differs from the others
- ✓ Scale of operation/production/delivery of service

Resource Requirements
- ✓ Technical requirements
- ✓ Land requirements
- ✓ Skill requirements
- ✓ Machinery and equipment needed

Specifications Based on the Requirements and Project Cost Estimation
- ✓ Technical specifications
- ✓ Cost assumptions
- ✓ Costings/Bill of Materials
- ✓ Investment requirements (financial and non-financial)
- ✓ Topography & Vicinity Map
- ✓ Building Location and Lay-out if Relevant

Implementation or Operation Plan
- ✓ Phasing, if needed
- ✓ Action plan
- ✓ Investment plan
- ✓ Schedule of operation

Environmental Mitigation Measures

Areas for Refinement

REFERENCE:

Manual of Industrial Project Analysis in Developing Countries (Vol.I) Revised Edition

Project Development Manual of the National Economic Development Authority, Phils., 1984

ENVIRONMENTAL IMPACT ASSESSMENT*

The Environmental Impact Assessment (EIA) is a tool used by project planners whereby environmental considerations are analyzed for the possible impact that its implementation may have on the deterioration of the environment e.g. air and water pollution, erosion, etc. These deterioration not only have a negative impact on the quality of life but also incur costs. Thus, it is important that an environmental impact analysis be undertaken for the project. The process seeks to identify different environmental effects that may be affected by the project. Its significance to the overall project development and to the society as a whole then becomes important in the assessment stage especially those projects that are considered environmentally critical or located in critical areas.

EIA is usually conducted as a separate activity from the feasibility study. Its requirements are done by experts coming from multi-disciplinary backgrounds. The policy and regulatory framework for undertaking EIA is contained in EO No. 291 (January 1996). Improving the Environmental Impact Statement System, stresses the simultaneous conduct of the environmental impact study and the feasibility study as a planning tool, and establishes in-house Environmental Units in all implementing agencies. The objectives of the said EO are as follows:

- Ensure that environmental considerations are incorporated at the earliest possible stage of project development,
- Strengthen the current procedures for EIA preparation to improve its effectiveness as a planning, regulatory and management tool, and
- Enhance maximum participation in the EIA process to generate social acceptability and ensure the fullest consideration of all environmental impacts.

Meaning of Environmental Impact Assessment (EIA)

Environmental impact assessment (EIA) is a process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of proposed projects and physical activities before making major decisions and commitments for their implementation. As a process, it involves multidisciplinary experts and stakeholders. In relation to environmental management, EIA is used

* Excerpt from the "Project Development Manula", National Economic and Development Authority.

basically as a planning tool but can also become, through the EIS, a monitoring instrument and through the ECC conditions, a regulatory tool.

EIA Objectives

- Identification and description of the physical and biological elements of the environment in which the project will be implemented (in some cases the socio-economic elements are included as well as part of the project `environment');
- Estimation of the nature of the impact of project activities on the identified elements of the environment;
- Assessment of the significance of the impacts;
- Effective communication of the impacts to decision-makers and the affected communities;
- Generation of mitigating measures (environmental management measures);
- Providing the basis for project monitoring and evaluation of environmental impacts.

There are therefore row substantive goals of EIA: (1) to facilitate sound, integrated decision-making in which environmental considerations are explicitly included; and (2) to achieve or support the goals of environmental protection and sustainable development.

When should an EIA be undertaken?

- Throughout the project cycle, beginning as early as possible in the concept design phase;
- With clear reference to the requirements for project authorization and follow-up, including impact assessment;
- Consistent with the application of "best practicable" science and mitigation technology;
- In accordance with established procedures and project-specific terms of reference, including agree timelines; and

- To provide meaningful consultation with communities, groups and parties directly affected by, or with an interest in the project and/or its environmental impacts.

In general, the impacts examined by an EIA include the following:

- Biological impacts
- Socio-economic impact
- Human health impacts
- Geophysical impacts
- Risks

The DAO 96-37 specifies the need for an Environmental Impact (EIS) system. The EIS system covers projects that are defend by law as environmentally critical projects (ECPs) and those that will be located in environmentally critical areas (ECAs).

What are environmentally critical projects (ECPs). As indicated in the law these are:

a. Heavy Industries

1. Non-ferrous metal industries refer to the organized and coordinated arrangement of manufacturing processes designed to prepare, smelt process or recycle Non-ferrous metals into marketable products. Projects include those characterized by any of the following specifications:

   - Having a designated annual rated capacity equal to or exceeding 3,000 metric tons

   - Will involve handling or processing of toxic materials or impurities such as cadmium, mercury, cyanide chromium and lead in excess of 10 kg/month

2. Iron and steel mills refer to the organized and coordinated arrangement of manufacturing processes designed to prepare or smelt process iron ores, steel-scrap or primary iron and steel mill products into marketable products except when the process involved reheating or resizing only. Projects include those that are characterized as having a designated annual rated capacity equal to or exceeding 30,000 metric tons products.

3. Smelting plants refer to the organized and coordinated arrangement of manufacturing process designed to smelt metals or alloys and cast the

same into some special form. This classification includes projects that fall under any of the following specifications:

- Having a designated annual rated capacity equal to or exceeding 15,000 metric ton raw materials or
- Will process toxic non-ferrous metals such as cadmium, chromium and lead

4. Petroleum and petro-chemical industries refer to the organized and coordinated arrangement of manufacturing processes designed to physically or chemically transform petroleum and its derivatives into marketable products. This classification includes projects that fall under any of the following specifications:

   - Refineries with designed capacities equal to or exceeding 30,000 barrels of petroleum per year, or
   - Petrochemical industry projects with designated annual rated capacities of 30,000 tons

b. Resource Extractive Industries

1. Major mining and quarrying projects refer to projects involving the extraction and processing of metals, metalliferous ores, fuel, precious stones< fertilizers, clays and other earth-based materials on a commercial scale. This classification includes projects that fall under any of the following specifications:

   - Ore processing by cyanidization, flotation, mechanized grinding and/or crushing, magnetic separation and/or mechanized gravity concentration
   - Utilization of the open pit methods with mechanical operations and/or blasting
   - Underground mining using blasting and/or mechanical extraction
   - Marine or offshore mining
   - Transport oil, gas and other earth-based material through pipelines, or
   - Extraction of oil and gas

- Cement plants and related industries (lime factories)

2. Forestry Projects

- Logging projects refer to the cutting and harvesting of timber on a commercial scale

- Forestry occupancy refer to tenure-related livelihood projects and associated management projects located inside public forest lands as defined under PD 705 and will involve activities having direct impact/s on an area of 5.0 has. Or more. However, the occupancy of indigenous communities within areas claimed as ancestral lands or domains or areas certified as such (CALC/CADC) pursuant to DAO No. 93-2 shall not be considered as forest occupancy projects provided they will not involve activities or undertaking that are defined as environmentally critical (such as logging, mining, major dam construction)

- Extraction of mangrove products refer to the cutting and gathering of mangrove timber and its products for commercial purposes

- Introduction of fauna in public/private forests refer to the introduction of exotic species of flora and fauna to private or public forests

- Major wood processing projects refer to the processing of logs and other forest raw materials into finished or semi-finished products. This classification shall include, among others, sawmills, wood manufacturing/processing plants producing veneer, plywood, wall board, blackboard, crates, etc. and pulp and paper mills.

- Grazing projects refer to the management of forest range resources for forage productivity needed to support livestock production

- Dikes for and fishpond development projects refer to natural or artificial water impoundment involving dire construction for purposes of raising fries or salt production and harvesting the same at marketable size and quantities. Fishpond development projects shall be considered critical if such will involve utilization of areas equal to or greater than 24 has.

c. Infrastructure projects

- Major dams refer to all impounding structures and appurtenances with storage volumes equal to or exceeding 20 million cubic meters

- Major roads and bridges refer to the construction of all national and provincial roads, railways, flyovers, expressways, railroads, tunnels and bridges or any significant extension, expansion, widening (or improvements)

- Major power plans refer to power generating plants, transmission and distribution systems (substations) utilizing, or are run by, fossil fuels, geothermal resources, the nuclear fission process, natural river discharge, poundage or dump storage. This classification includes all nuclear power plants with rated capacities equal to or exceeding 10MW and hydroelectric power plans or any other conventional power projects with rated capacities equal to or exceeding 60 MW

- Major reclamation projects refer to projects that involve the filling or draining of areas (foreshore, marshes, swamps, lakes, etc) equal to exceeding 5 hectares

- Major ports and harbors refer to the construction, significant extension, expansion, widening or improvement of all national and international airports, seaports and harbors

- Waste disposal facilities refer to landfills septic tank sludge treatment or disposal sites, incinerators, toxic, wastes disposal treatment sites, transfer stations and other similar project or activities with annual rated capacity of 150,00 metric tons.

- Major flood control projects

- Industrial estates, large commercial buildings and real estate projects. Industrial estates refer to industrial parks, estates, special economic zones, regional industrial centers, etc. large commercial buildings refer to condominiums, malls. Hotels, condo hotels, and such other structures whose total floor area exceeds 10,000 square meters or with a height of more than 10 stories. Real estate projects refer to subdivision, housing projects, theme parks, cemetery or memorial parks, mixed use projects and such other projects or activities that cover a land area in excess of 10 has.

d. Golf course projects

What are environmental critical areas (ECAs)

a. All areas declared by law as national parks, watershed resources, wildlife preserves and sanctuaries

b. Areas set aside as potential tourist spots

c. Areas which constitute the habitat for any endangered or threatened species of indigenous Philippine wildlife

d. Areas unique historical, archeological or scientific interest

e. Areas which are traditionally occupied by cultural communities or tribes

f. Areas frequently visited or hard-hit by natural calamities

g. Areas with critical slopes

h. Areas classified as prime agricultural lands

i. Recharged areas of aquifers

j. Water bodies characterized by one or any combination of the following conditions:

- Tapped for domestic purposes
- Within the controlled or protected areas declared by appropriate authorities
- Support wildlife and fishery activities

k. Mangrove areas characterized by one or any combination of the following conditions:

- With primary and pristine and dense young growth
- Adjoining mouth of major river systems
- Near or adjacent to traditional productive fry or fishing grounds
- Act as natural buffers against shore erosion, strong winds and storm floods
- On which people are depended for their livelihood

l. Coral reefs

The following is an indicative list of projects or undertakings whose proponents are required to submit an EIS to DENR-EMB:

1. Heavy and medium industries

    a. Chemical industries
    b. Food processing industries
    c. Rubber and other resin processing industries
    d. Sugar and coconut milling (except oil mills)
    e. Distilleries and fermentation industries
    f. Refineries and textile industries
    g. Petrochemical/oil depots
    h. Infrastructure projects

        - New municipal or city barangay roads and bridges along critical slopes or exceeding five (5) kilometers in length

    i. Waste Management projects

        - Waste handling, transport and disposal services including but not limited to sanitary landfills, urban sewerage systems

        - Domestic hazardous and centralized waste treatment facilities, toxic and hazardous waste landfill and incinerators

    j. Complex flyover structures

What are the projects not covered by the EIS system

- Projects which are not considered as an environmentally critical or not located within an ECA

- ECPs and projects or structures within ECAs which have been operational or in existence prior to 1982, except in cases where their operations are expanded in terms of daily production capacity or area, or the process is modified; and

- Countryside business and barangay entities (CBBEs) covered by RA 6810, otherwise known as the Magna Carta for Countryside and Barangay Business Enterprises (Kalakalan 20 and registered with the Local Government Unit (LGU) between 1991 to 1994, inclusive.

Projects/activities that may be issued with a Certificate of non-coverage

a. Butterfly farming covering an area not more than one thousand (1,000) square meters;

b. Rice or corn mills not exceeding 1.0 MT/hr input capacity;

c. Flower/ornamentals production and sale, including landscaping;

d. Backyard animal farms having not more than 5,000 heads of birds, or two (2) sows with 20 pigs;

e. Individual residential houses;

f. Garment industry (e.g. manufacturing limited to cutting and sewing);

g. Cottage industry (e.g. manufacture of stuffed toys, handicrafts and giftwares);

h. Organic compost or fertilizer-making with production capacity not exceeding 10,000 bags per annum;

i. Importation or purchase of equipment (e.g. tractors, haulers, sprayers, dryers, shellers, fishing gears and equipment, vessels, vehicles, planes, modular incinerators, etc.) However, the operation of such equipment shall be subject to other applicable permit or licensing requirements; and

j. Pedestrian overpass

Tools for doing EIA

Below is a discussion of some of the tools that are commonly used when doing an EIA for project preparation. The said tools are normally guides which will help in drawing and possible impacts of a proposed project. This is normally used by the experts, but for purposes of illustrating some of the things that will have to be attended to by the proponent, it would be helpful that a primary indication of the possible impacts of the project can be listed down using the following tools.

The Environmental Checklist (EC)

The list will assist project proponents to consider the various adverse effects of the project to the environment.

How to Prepare an Environmental Checklist (EC)	
Step 1:	List the environmental elements found in the project area (physical, biological, socio-economic)
Step 2:	Identify the nature of the project impact on the environmental elements (adverse, beneficial, or no impact)
Step 3:	For adverse impacts, specify the significance (high +++, medium ++, low +)

Environmental Measures Form (EMF) relates or links project activities to possible adverse impacts on the environment. It describes these adverse impacts (key issues) and identify environmental management measures to alleviate or manage these:

Preparing the Environmental Measures Form	
Step 1:	Transfer adversely affected elements identified in the Environmental Checklist to the first column of the Environmental Measures Form
Step 2:	For each element, specify the project activities causing the adverse impact
Step 3:	Describe the adverse impact (key issue)
Step 4:	For each key issue develop one or more possible environmental management measures

Sample Environmental Checklist

Elements	Nature and Significance of Likely Impact		
	Adverse * Low ** Medium *** High	**None**	**Beneficial**
Physical			
Surface water		x	
Ground water	***		
Soil		x	
Landscape/topography	*		
Rivers/natural drainage		x	
Biological			
Aquative ecosystem		x	
Terrestial wildlife		x	
Biodiversity (endangered species)	***		
Socio-economic			
Traditional fishery		x	
Traditional agriculture			x
Employment opportunities			x
Resettlement		x	
Land transportation		x	x
Workers health	**		

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Department of Environment and Natural Resources
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DENR Administration Order No. 96-37
Series of 1996

SUBJECT: REVISING DENR ADMINISTRTATION ORDER NO.21 SERIES OF 1992, TO FURTHER STRENGTH THE IMPLEMENTATION OF THE ENVIRONMENTAL IMPACT STATEMENT (EIS) SYSTEM

Consistent with the continuing effort of the Department of Environment and Natural resources (DENR) to strengthen the implementation of the Environment Impact Statement (EIS) System established under Presidential Degree (PD) No. 1586, and pursuant to Section 7 of Executive Order No. 192, Series of 1987, the following provisions revising Department Administrative Order (DAO) No. 21, Series of 1992, are hereby promulgated.

ARTICLE 1

BASIC POLICY, OBJECTIVES AND DEFINATION OF TERMS

Section 1.0 Basic Policy

It is the policy of the DENR to attain and maintain a rational and orderly balance between socio-economic growth and environmental protection through the sustainable use, development, management, renewal and conservation of the country's natural resources, including the protection and enhancement of the quality of the environment, not only for the present generation but for the future generations as well.

Section 2.0 Objectives

This Administration Order (Order) shall have following objectives:

a. Ensure that environmental considerations are incorporated at the earliest possible stage of the project development.

b. Further streamline the current procedures in the conduct of the Environmental Impact Assessment (EIA) in order to improve its effectiveness as a planning, regulatory, and management tool.

c. Enhance maximum public participation in the EIA process to validate the social acceptability of the project undertaking so as to ensure the fullest consideration of environmental impact of such project or undertaking.

Section 3.0 Definition of Terms

For purposes of this Order, the following terms shall mean:

a. **CENRO** - the Community Environment and Natural Resources Office of the Department of Environment and Natural Resources.

b. **DENR** - the Department of Environment and Natural Resources.

c. **EIS Procedural Manual** - a detailed guide on the procedures to be observed by the parties involved in the EIS System. It shall include, among others; guidelines on the public participation and social acceptability, the EIS/IEE renew criteria, and scooping procedures.

d. **EMB** - the Environmental Management Bureau of the DENR.

e. **EMPAS** - the Environmental Management and Protected Areas Sector of the DENR Regional Office.

f. **(Environmental Compliance Certificate (ECC)** - the document issued by the DENR Secretary or the Regional Executive Director certifying that based on the representations of the proponent and the prepares, as reviewed and validated by the EIARC, the proposed project or undertaking will not cause a significant negative environmental impact; that the proponent is committed to the Environmental Impact Statement or mitigation measures in the Initial Environmental Examination.

g. **Environmentally Critical Area (ECA)** - an area that is environmentally sensitive and is so listed under Presidential Proclamation (Pres. Proc.) No. 2146, Series of 1981 as well as other area which the President of the Philippines may proclaim as environmentally critical in accordance with Section 4 of P.D. 1586.

h. **Environmentally Critical Project (ECP)** - a project that has high potential for significant negative environment impact and is listed as such under Presidential Proclamation (Pres. Proc.) No. 2146, Series of 1981 and Pres. Proc. No. 803, series of 1996, as well as other projects which the President of the Philippines may proclaim as environmentally critical in accordance with Section 4 of P.D. 1586.

i. **Environmental Guarantee Fund (EGF)** - a fund that proponents required or opting to submit an EIS shall commit to establish when an ECC is issued by the DENR for projects or undertakings determined by the latter to pose significant public risk to answer for damage to life, health, property, and the environment caused by such risk, or requiring rehabilitation or restoration measures.

j. Environmental Impact - the probable effects or consequence of proposed projects or undertakings on the physical, biological and socioeconomic environment that can be direct or indirect, cumulative, and positive or negative.

k. Environmental Impact Assessment (EIA) - the process of predicting the likely environmental consequences of implementing projects or undertakings and designing appropriate preventive, mitigating and enhancement measures.

l. **Environmental Impact Assessment Review Committee (EIRC)** - a body of independent technical experts and professionals of known probity from various fields organized by the EMB/RED whose main tasks are to evaluate the EIS and other documents related thereto, and make appropriate recommendations to the EMB/RED regarding the issuance or non-issuance of ECCs.

m. **Environmental Impact Statement (EIS)** - the document(s) of studies on the environmental impacts of a project including the discussions on direct and indirect consequences upon human welfare and ecological and environmental integrity. The EIS may vary from the project to project but shall contain in every case all relevant information and details about the proposed project or undertaking, including the environmental impacts of the project and the appropriate mitigating and enhancement measures.

n. **Environmental Impact Statement (EIS) System** - the entire process of organization, administration, and procedures institutionalized for purposes of assessing the significance of the effects of any project or undertaking on the quality of the physical, biological and socio- mitigating and enhancement measures.

o. **Environmental Management Plan (EMP)** - a section in the EIS that details the prevention, mitigation, compensation, contingency and monitoring measures to enhance positive impacts and minimize negative impacts of a proposed project or undertaking.

p. **Environmental Management Plan (EMF)** - a fund that proponents required or opting to submit an EIS shall commit to establish when an ECC is issued by the DENR for its project or undertaking, to be used to support the activities on the multi-partite monitoring team.

q. **Environmental Risk Assessment (ERA)** - the use of scientific methods and information to define the probability and magnitude of potentially adverse effects which can result from exposure to hazardous materials or situations.

r. **Initial Environment Examination (IEE) -** the document required of proponents describing the environmental impact of, and mitigation and enhancement measures for, projects or undertaking located in an ECA. The IEE shall replace the Project Description required under DAO 21, Series of 1992.

s. **Multipartite Monitoring System (MMT) -** A multi-sectoral team convened for the primary purpose of monitoring compliance by the proponent with the ECC, the EMP and applicable laws, rules and regulations.

t. **PENRO -** the Provincial Environmental and Natural Resources Office of the DENR.

u. **Preparer** - the proponent's technical staff or a competent professional group commission by the proponent to prepare the EIS/IEE and other related documents.

v. **Project or Undertaking** - any activity, regardless of scale or magnitude, which may have significant impact on the environment.

w. **Proponent -** any natural or juridical person intending to implement a project or undertaking.

x. **Public Participation** - a transparent, gender sensitive, and community-based process involving the broadest range of stakeholders, commencing at the earliest possible stage of project design and development and continuing until post-assessment monitoring which aims to ensure social acceptability of a project or undertaking.

y. **Public Risk** - exposure of public health or the environment to toxic substances, hazardous or organic wastes, extraction of natural resources, or activities or structures that could endanger life, health, property, or the environment.

z. **RED -** the Regional Executive Director of the DENR Regional Office.

aa. Scoping - the stage in the EIS system where information and assessment requirement are established to provide the proponent with the scope of the work for the EIS.

bb. Secretary - the secretary of the DENR.

cc. Social Acceptability - the result of a process mutuality agreed upon by the DENR, key stakeholders, and the proponent to ensure that the valid and relevant concerns of stakeholder, including affected communities, are fully considered and/or resolved in the decision making process for granting and denying the issuance of an ECC.

dd. Stakeholders - person who may be significantly affected by the project or undertaking, such as, but not limited to, members of the local community, industry, local government units (LGUs), non-government organizations (NGOs) and people's organizations (POs).

ARTICLE II

SCOPE OF THE EIS SYSTEM

Section 1.0 Coverage

The following projects and undertaking are covered by the EIS System:

a. Environmentally Critical Projects (ECPs)

i. Heavily industries

1. Non-ferrous metal industries
2. Iron and steel mills
3. Petroleum and Petro-chemical industries, including oils and gas.
4. Smelting plants

ii. Resource extractive industries

1. Major mining and quarrying projects
2. Forestry projects

a. Logging
b. Major wood processing projects
c. Introduction of fauna (exotic animals) in public/private forests.
d. Forest occupancy
e. Extraction of mangrove products
f. Grazing

3. Fishery projects

a. Dikes for/and fishpond development projects

iii. Infrastructure projects

1. Major dams

2. Major power plants (fossil-fueled, nuclear fueled, hydro-electronic, or geothermal)

3. Major reclamation projects

4. Major roads and bridges

iv. Golf course projects

b. Projects located in Environmentally Critical Areas (ECAs)

i. All areas declared by law as national parks, watershed reserves, wildlife preserves, and sanctuaries.

ii. Areas set aside as aesthetic potential tourist spots

iii. Areas which constitute the habitat for any endangered or threatened species of indigenous Philippine wildlife (flora and fauna)

iv. Areas in unique historic archeological interest

v. Areas which traditionally occupied by cultural communities or tribes (indigenous cultural communities)

vi. Areas frequently visited and/or hard-hit by calamities (geological hazards, floods, typhoons, volcanic activity, etc.)

vii. Areas with critical slopes.

viii. Areas classified as prime agricultural lands.

ix. Recharged areas of aquifers

x. Water bodies characterized by one or any combination of the following conditions:

1. Tapped for domestic purposes.

2. Within the controlled and/or protected areas declared by appropriate authorities.

3. Which support wildlife and fishery activity.

xi. Mangrove areas characterized by one or any combination of the following conditions:

1. With primary pristine and defense young growth

2. Adjoining mouth of major river systems

3. Near or adjacent to traditional productive fry or fishing grounds

4. Which act as natural buffers against shore erosion, strong winds and storm floods

5. On which people are dependent for their livelihood

xii. Coral reefs characterized by one or any combination of the following conditions:

1. With fifty percent (50%) and above live coralline cover

2. Spawning and nursery grounds for fish

3. Which act as natural breakwater of coastlines.

No person shall undertake or operate any such declared ECP or project within an ECA without first securing an ECC.

Section 2.0 Non-Coverage

The following projects and undertaking are not covered by the EIS system.

a. Project which are not considered as environmentally critical or not located within an ECA.

b. ECPs or project within ECAs, which are operational prior to 1982 except, incases where their operations are expanded in terms of daily production capacity of area, or the process is modified.

c. Country side business and barangay entries (CBBEs) covered by Republic Act No.6810, otherwise known as the Magna Carta for Countryside and Barangay Business Enterprises (Kalakalan 20), and registered with the Department of Trade and Industry between 1991 to 1994, inclusive. Provided that, unless otherwise amended by law, non-covered of such CBBEs shall only subsist for a five (5)-year period beginning from its date of registration.

Section 3.0 EIS/IEE for Covered Project Undertakings

If a project is considered an ECP, the proponent shall be required to prepare an EIS. If the project is located within an ECA, the proponent shall be required to submit an IEE, without prejudice to the submission of an EIS as may be further required by the RED. In the alternative, the proponent of a project within an ECA may, at its option, submit an EIS as provided in Section 29, Article III.

If a project or undertaking is an ECP located within an ECA, the procedure for submission of an EIS for ECPs under Article III (A) shall be observed.

Section 4.0 Environmental Safeguards for Projects or Undertakings Not Covered by the EIS System

Projects or undertakings not covered by the EIS System may proceed without further environmental impact assessment studies. The RED may, however, require the proponent to provide additional environmental safeguards for its project or undertaking.

ARTICLE III

PROCEDURAL FLOW OF THE EIS SYSTEM

A. Environmentally Critical Projects

Section 1.0 Objective Scoping

Scoping shall be initiated by the pro ponent at the earliest possible stage of projectdevelopment to define the range of actions, alternatives and impacts to be examined. The objectives of scoping shall be to:

a. Provide an early link between the DENR and the proponent to ensure that the EIA addresses relevant issues and presents results in a form consistent with EIA review requirements;

b. Allow stakeholders to make their concerns known to ensure that the EIA adequately addresses the relevant issues;

c. Establish an agreement at the outset of the EIA between the proponent, the DENR and stakeholders on what issues and alternatives are to be examined;

d. Addresses issue on carrying or assimilative capacity of the environment and identify possible legal constraints or requirements regarding the project proposal;

e. Determine whether the project or undertaking requires the conduct of an environmental risk assessment; and

f. Determine and agree on the process of dealing with issues relating to social acceptability.

Section 2.0 Initial Identification of EIARC Members

The EMB shall, at the scoping stage, identify prospective members of the EIARC who shall be invited to join the scoping sessions for the particular project or undertaking whenever possible. The EIARC shall, however, be formally convened only upon submission of the EIS.

Section 3.0 Formal Scoping Report

Based on said scoping process, the proponent shall submit a formal scoping report to the EMB.

Section 4.0 Review of Scoping Report

The EMB shall review the scoping report submitted by the proponent and, after consultation with the latter, determine the actual scope of the EIS. In determining the scope of the EIS, the EMB shall take into account the concerns of and the recommendations of stakeholders.

Section 5.0 Agreed-upon Scope

The agreed-upon scope shall be recorded and shall serve as a basis for the EIA and the review of the EIS.

Section 6.0 Adjustment of Scope

The scoping may be adjusted during the course of the study to take into account new information or changing conditions.

Section 7.0 Submission of EIS

Upon completion of the EIA Study, the proponent shall submit at least ten (10) legible copies of the EIS and a complete electronic file in computer diskettes to the EMB for review. The EMB may require the proponent to submit additional copies as necessary.

The proponent shall likewise furnish a copy of the EIS to the Offices of the Undersecretary handling the environment, the concerned Regional Executive Director, PENRO, CENRO and the Municipal/City Mayor where the project is proposed to be located.

Section 8.0 Eligible Preparers

The EIS may be prepared by the proponent's technical staff or a professional group commissioned by the proponent, provided that only EIS preparers duly accredited by the EMB in accordance with its accreditation procedures shall be allowed to actually prepare the EIS.

Section 9.0 Contents of the EIS

Subject to the agreed-upon scope described in Section 5.0, Article III and the EIS Procedural Manual, an EIS shall at least contain the following basic items:

a. Project Description, including data on project location, specifically describing the primary and secondary impact zones, project rationale, alternatives, including alternative sites or actions, no action alternatives, and project phases;

b. Scoping Report;

c. Baseline Environmental Conditions for land, water, air, and people;

d. Impact Assessment, including a discussion of the impact of the project or undertaking on the environment and public health;

e. Environmental Risk Assessment, when appropriate;

f. Environmental Management Plan;

g. Proposals for Environmental Monitoring and Guarantee Funds wen required;

h. Supporting Documents, such as documents on social acceptability, process of public participation, technical and socio-economic data used, gathered, or generated; and

i. Accountability Statements of the preparer and the proponent.

j. For projects located in ancestral lands or domains, as defined under DAO No. 2, series of 1993, or subsequently by law, of indigenous communities, a specific chapter in the socio-economic impact assessment shall be devoted to a discussion of indigenous peoples' concerns and possible socio-economic, political and cultural impacts of the proposed project on such people.

k. For projects or undertakings with significant impact on women, a specific chapter in the socio-economic impact assessment shall be devoted to a discussion and consideration of gender issues.

l. For projects or undertakings with significant impact on population, a specific chapter on the socio-economic impact assessment shall be devoted to a discussion of the relationship among population, development, and the environment.

Some or all of the foregoing items may, wen appropriate, be presented in a format using the checklist approach.

Section 10.0 Initial Review of EIS Documents

Upon receipt of the EIS, the EMB shall immediately determine the completeness of the documents submitted by the proponents. If the documents are found to be incomplete or in need of revision, the same shall be immediately returned to the proponent for completion or revision.

Section 11.0 Convening of, and Endorsement to, the EIARC

Within 15 days from the date of submission of the EIS, the EMB shall convene the EIARC and endorse the EIS to said body for substantive review.

Section 12.0 Substantive Review by the EIARC

After proper endorsement, the EIARC shall evaluate the EIS in accordance with the review criteria set forth in the EIS Procedural Manual. The EIARC shall validate the EIS through methods deemed appropriate such as, but not limited to, ocular inspections/site visits and technical studies conducted by experts and relevant institutions. The EIARC shall consider the process documentation report in the validation of the EIS. The EIARC shall endeavor to complete the substantive review of the EIS within 60 days from receipt thereof.

Section 13.0 EIARC Report

Within 15 days from completion of review, including public consultations and hearings, the EIARC shall submit a report to the EMB Director containing the results of its review/evaluation and its recommendations with respect to the issuance/non-issuance of the ECC. Said report, which shall begin with a brief description of the project or undertaking, shall discuss.

a. Environmental impacts and corresponding costed mitigation and enhancement measures of the project or undertaking;

b. Key issues/concerns;

c. Proponent's response to issues;

d. Compliance with review criteria, technical/substantive content and social acceptability requirements; and

e. The acceptability of the proposed EMP.

Section 14.0 Recommendation of the EMB Director

Within 15 days from receipt of the EIARC report, the EMB Director shall make his or her own recommendations to the Office of the Secretary for final decision. Copies of the EIARC report and other pertinent documents shall be attached to the EMB Director's recommendations.

Section 15.0 Issuance of ECC

Within 15 days from receipt of the report of the EMB director, unless circumstances warrant a longer period of time, the Secretary shall either grant or deny the issuance of the ECC. In granting or denying the issuance of the ECC, the Secretary shall take into account the social and environmental cost implications relative to the judicious utilization, development and conservation of the country's natural resources.

Section 16.0 Transmittal of EIS Records and ECCs

In the event that an ECC is issued, the Secretary shall cause the transmittal of the EIS, all pertinent records and documents, and the ECC to the EMB within 10 days from the date of such issuance. The offices of the concerned Regional Executive Director, PENRO, CENRO, the Municipal/City Mayor and the proponent shall also be furnished a copy of the ECC within the same period.

B. Projects within Environmentally Critical Areas

Section 17.0 Submission of IEE

The proponent shall submit at least ten (10) legible copies of the IEE and a complete electronic file in computer diskettes to the EMPAS for review. The EMPAS may require the proponent to submit additional copies as necessary.

The proponent shall likewise furnish a copy of the IEE to the concerned PENRO, CENRO and the Office of the Municipal/City Mayor where the project is proposed to be located.

Section 18.0 Eligible Preparers

The IEE may be prepared by the proponent's technical staff or a professional group commissioned by the proponent, provided that only IEE preparers duly accredited by the EMB in accordance with its accreditation procedures shall be allowed to actually prepare the IEE.

Section 19.0 Contents of the IEE

Subject to the EIS Procedural Manual, an IEE shall at least contain the following basic items:

a. A brief description of the environmental setting and receiving environment, including the primary and secondary impact areas;

b. A brief description of the project or undertaking and its process of operation;

c. A brief description of the environmental impact of the project or undertaking, including its socio-economic impact;

d. A matrix of mitigation and enhancement measures;

e. A documentation of the consultative process undertaken, when appropriate;

f. A brief discussion of indigenous peoples' concern and possible socio-economic, political and cultural impacts of the proposed project or undertaking on such people for projects or undertakings located in ancestral lands or domains, as defined under DAO No. 2, series of 1993, or subsequently by law, of indigenous communities;

g. A brief discussion of gender issues for projects or undertakings with significant impact on women;

h. A brief discussion of the relationship among population, development, and the environment for projects or undertakings with significant impact on population; and

i. Accountability Statements of the preparer and the proponent.

Some or all of the foregoing items may, when appropriate, is presented in a format using the checklist approach.

Section 20.0 Review and Evaluation of IEE

Upon receipt of the IEE, the EMPAS shall determine the completeness of the documents submitted by the proponents. If the documents are found to be incomplete or in need of revision, the same shall be immediately returned to the proponent for completion or revision.

Section 21.0 Substantive Review by the EMPAS

Within 15 days from the date of submission, the EMPAS shall conduct substantive review of the IEE. The EMPAS shall evaluate the IEE in accordance with the review criteria set forth in the EIS Procedural Manual. The EMPAS shall validate the IEE through methods deemed appropriate such as, but not limited to, ocular inspections/site visits, studies conducted by experts and relevant institutions and shall consider the process documentation report in the validation of the EIS. The EMPAS shall endeavor to complete substantive review of the IEE within 30 days from receipt thereof.

Section 22.0 EMPAS Report

Within 15 days from completion of review, including public consultations, the EMPAS shall submit a report to the RED. The EMPAS may recommend the issuance or non-issuance of the ECC, or the preparation of an EIS. Should the EMPAS recommend the issuance of the ECC, the report, which shall begin with a brief description of the project or undertaking, shall discuss:

a. The environmental impacts and corresponding costed mitigation and enhancement measures of the project or undertaking;

b. Key issues/concerns;

c. Proponent's response to issues;

d. Compliance with review criteria, technical/substantive content and social acceptability requirements;

e. Acceptability of proposed EMP.

Section 23.0 Decision on the IEE

Within 15 days from receipt of the EMPAS report, unless circumstances warrant a longer period of time, the RED may:

a. Either grant or deny the issuance of the ECC; or

b. Decide that an EIS is further required, in which case he or she shall inform the proponent of such decision.

Section 24.0 Issuance of ECC pursuant to Section 23, Article III

In granting or denying the issuance of the ECC, the RED shall take into account the social and environmental cost implications relative to the judicious utilization, development and conservation of the country's natural resources.

Section 25.0 Scoping

Should the RED decide that an EIS is further required, he or she shall likewise determine whether the IEE process was sufficient for scoping purposes or not. If the RED finds that scoping is still necessary, the procedure outlined in Sections 1 to 6, Article III (A) shall be followed. Provided, however, that the responsibilities of the EMB and the EIARC shall be assumed by the EMPAS and the Regional EIARC, respectively. The RED's decision to forego scoping shall not preclude the proponent from voluntarily undergoing scoping.

Section 26.0 Submission of EIS Upon Order of the RED

Within 15 days from submission of the required EIS, the RED shall convene a Regional EIARC for substantive review of the EIS. If a Regional EIARC can not be convened due to inadequacy of persons who are willing and able to serve as members of the Regional EIARC, or for other compelling reasons, the RED may seek the assistance of the EMB in convening and lending technical support to the Regional EIARC. Within the same period, the RED shall endorse the EIS to the Regional EIARC.

The proponent shall likewise furnish a copy of the EIS to the EMB, the concerned PENRO, CENRO and the Office of the Municipal/City Mayor where the project is proposed to be located.

Section 27.0 Review of EIS

The Regional EIARC shall, upon proper endorsement of the RED pursuant to the immediately preceding section, evaluate the EIS in accordance with the review criteria set forth in the EIS Procedural Manual. The Regional EIARC shall validate the EIS through methods seemed appropriate such as, but not limited to, ocular inspections/site visits and technical studies conducted by experts and relevant institutions. The Regional EIARC shall consider the process documentation report in the validation of the EIS. The Regional EIARC shall endeavor to complete the substantive review of the EIS within 60 days from receipt thereof.

Section 28.0 Regional EIARC Report

Within 15 days from completion of review, including public consultations and hearings, the Regional EIARC shall submit a report to the RED containing the results of its review and recommendations with respect to the issuance or non-issuance of the ECC. Said report, which shall contain a brief description of the project or undertaking, shall discuss:

a. Matrix of environmental impacts and corresponding costed mitigation and enhancement measures of the project or undertaking;

b. Key issues/concerns;

c. Proponent's response to issues;

d. Compliance with review criteria, technical/substantive content and social acceptability requirements; and

e. Acceptability of proposed EMP.

Section 29.0 Decision on the EIS Submitted Pursuant to Section 26.0, Article III

Within 15 days from receipt of the Regional EIARC's report, unless circumstances warrant a longer period of time, the RED shall either grant or deny the issuance of the ECC. In granting or denying the issuance of the ECC, the RED shall take into account the social and environmental cost implications relative to the judicious utilization, development, and conservation of the country's natural resources.

Section 30.0 Optional Submission of EIS

If the proponent has reasonable grounds to believe that a project or undertaking within an ECA is of such nature and magnitude that an EIS will be required, as provided in Section 22 and 23 (b), Article III, the proponent may opt to immediately prepare and submit an EIS to the DENR Regional Office in lieu of an IEE. In such case, the provisions on the procedural flow for EIS under Sections 1 to 13, Article III (A) shall apply. Provided, however, that the responsibilities of EMB and the EIARC referred to therein shall be assumed by the RED and the Regional EIARC, respectively.

Section 31.0 Issuance of ECC Pursuant to Section 30, Article III

Within 15 days from receipt of the Regional EIARC report, unless circumstances warrant a longer period of time, the RED shall either grant or deny the issuance of the ECC. In granting or denying the issuance of the ECC, the RED shall take into account the social and environmental cost implications relative to the judicious utilization, development and conservation of the country's natural resources.

Section 32.0 Transmittal of ECCs Issued Pursuant to Sections 29.0 and 30.0, Article III

In the event that an ECC is issued pursuant to Sections 29.0 or 30.0, Article III, the RED shall provide the Offices of the Undersecretary handling the environment, the EMB, PENRO, CENRO, and the Municipal/City Mayor a copy of the ECC within ten (10) from the date of such issuance.

Section 33.0 Coordination of EMB and Regional Office on EIS of Projects within ECAs

In case of an EIS submitted pursuant to either Section 26 or Section 30, Article III, the EMB shall coordinate with the Regional Office regarding the processing of the EIS within that region.

ARTICLE IV

Public Participation and Social Acceptability

Section 1.0 Social Acceptability

The acceptability of the environmental impact of a project or undertaking can only be fully determined through meaningful public participation and a transparent EIS process. In determining social acceptability, the DENR shall consider, among others, the following factors:

a. Ecological/environmental soundness of the proposed project;

b. Effective implementation of the public participation process;

c. Resolution of conflicts;

d. Promotion of social and intergenerational equity and poverty alleviation;

e. Effective environmental monitoring and evaluation; and

f. Proposed mitigation and enhancement measures.

Section 2.0 Public Information

a. The proponent shall present all information about the proposed project or undertaking to the public in a language and manner that are easily understood. Such information shall include an evaluation of public health, environmental, population, gender, socio-economic, and cultural impacts of the project or undertaking and the appropriate mitigation and enhancement measures.

b. A notice of the submission of an IEE/EIS shall be posted by the proponent, in coordination with the Regional Office or EMB, as the case may be, in the barangay and municipal halls and other conspicuous places in the affected community, together with a summary of the proposed project or undertaking.

Evidence demonstrating compliance with these requirements shall form part of the supporting documents to be submitted with the IEE/EIS.

Section 3.0 Public Consultation

Proponents of projects or undertakings required to undergo an EIA shall initiate the conduct of public consultations as provided in the EMB Guidelines on Public Participation and Social Acceptability, to ensure that the public's concerns are fully integrated into the EIA process.

Section 4.0 Public Hearings

The DENR, upon recommendation of the EIARC, shall hold public hearings for projects or undertakings requiring an EIS whenever:

a. The magnitude of the project is such that a great number of people are affected;

b. There is mounting public opposition against the proposed project; or

c. There is a written request for the conduct of such public hearing from any of the stakeholders.

Section 5.0 Conduct of Public Hearings

The DENR shall conduct such hearings at a period to be agreed upon between the DENR and the proponent in consultation with other key stakeholders. All public hearings shall be summary in nature and shall not strictly adhere to the technical rules of evidence.

Section 6.0 Notice of Public Hearing

Notice of public hearing shall be published once a week for two (2) consecutive weeks in any newspaper of general circulation at least 15 days prior to the scheduled hearing. Notice shall likewise be posted in a conspicuous place in the municipality and barangay where the project is proposed to be located. All expenses incurred for the notices shall be charged to the proponent.

Section 7.0 Hearing Officer

The EMB Director/RED shall designate the hearing officer who shall be:

a. Of known probity and independence;

b. Familiar with rules and procedures in the conduct of public hearings;

c. Skilled in effective dispute or conflict resolution; and

d. Sensitive to the need for social acceptability and public participation in the EIA process.

Section 8.0 Alternative Dispute or Conflict Resolution Processes

The DENR, in consultation with the proponent and other major stakeholders, shall nevertheless exert efforts to agree to adopt appropriate alternative dispute or conflict resolution processes, including but not limited to mediation, facilitated decision-making and negotiation, taking into consideration the unique characteristics of the projects, the issues, and the stakeholders.

Section 9.0 Process Documentation Report

The proponent shall prepare a process documentation report on the public consultation, public hearing, alternative dispute or conflict resolution processes used, which report shall be validated by the EMB/EMPAS through appropriate means. Such process documentation shall constitute part of the records of the EIA process. A copy of said report shall be transmitted to the PENRO/CENRO within seven (7) days from the end of the public hearing/consultation and shall, upon request, be made available by the PENRO/CENRO to all stakeholders and other interested parties. Copies of the report shall be considered as public documents.

Section 10.0 Compliance Monitoring

a. A multi-partite monitoring team (MMT) shall be formed immediately after the issuance of an ECC pursuant to an EIS. The MMT shall be principally tasked to undertake monitoring of compliance with the ECC conditions, the EMP and applicable laws, rules and regulations.

b. Monitoring of compliance with the proponent's ECC issued pursuant to an IEE, and applicable laws, rules and regulations, shall be undertaken by the concerned PENRO and CENRO with support from the Regional Office and/or EMB whenever necessary.

Section 11.0 Composition of the MMT

The composition of the MMT and their responsibilities shall be provided in a Memorandum of Agreement (MOA) negotiated by the proponent, the DENR and the major stakeholders. In all cases, the MMT shall be composed of representatives of the proponent and of a broad spectrum of stakeholders groups, including representatives from the LGUs, NGOs/POs, the community, women sector, concerned PENRO and CENRO with support from the Regional Office and/or the EMB, whenever necessary, the academe, relevant government agencies, and other sectors that may be identified in the negotiations leading to the execution of the MOA.

Section 12.0 Delegation of Monitoring Responsibilities

The MMT may seek the assistance of experts in its monitoring activities. However, such assistance shall not absolve members of the MMT from their responsibilities under the MOA.

ARTICLE V

ENVIRONMENTAL MONITORING AND GUARANTEE FUNDS

Section 1.0 Environmental Monitoring Fund

Proponents required or opting to submit an EIS are mandated to include in their EIS a commitment to establish an environmental monitoring fund (EMF) when an ECC is eventually issued. The EMF shall be established by the proponent not later than the initial construction phase of its project or undertaking.

Section 2.0 Amount of EMF

The amount to be allocated for the EMF shall be determined on the basis of the estimated cost of approved post-assessment monitoring and environmental information programs.

Section 3.0 EMF Mechanics

The amount to be paid out from, and the manner of utilization of, the EMF shall be set forth in the EIS Procedural Manual and incorporated as part of the MOA referred to in Section 11.0, Article IV.

Section 4.0 Environmental Guarantee Fund

An Environmental Guarantee Fund (EGF) shall be established for all projects or undertakings that have been determined by the DENR to pose a significant public risk as herein defined or where the project or undertaking requires rehabilitation or restoration.

Section 5.0 Presumption of Public Risk

A significant public risk may be presented by the DENR if any of the following conditions exists:

a. Presence of toxic chemicals and hazardous wastes as defined in Republic Act No. 6969;

b. Extraction of natural resources that requires rehabilitation or restoration;

c. Presence of structures that could endanger life, property, and the environment in case of failure; or

d. Presence of processes that may cause pollution as defined under Pres. Decree No. 984 or other related pollution laws.

Section 6.0 Recovery from the EGF

The manner of recovery from the EGF and the amounts to be paid out shall be set forth in the EIS Procedural Manual and incorporated as part of the MOA referred to in Section 11.0, article IV.

ARTICLE VI

ADMINISTRATIVE APPEALS

Section 1.0 Appeal to the Office of the Secretary

Any party aggrieved by the final decision of the RED may, within 15 days from receipt of such decision, file an appeal with the Office of the Secretary. The decision of the Secretary shall be immediately executory.

Section 2.0 Grounds for Appeal

The grounds for appeal shall be limited to grave abuse of discretion and serious errors in the findings of fact, which would cause grave or irreparable injury to the aggrieved party. Frivolous appeals shall not be countenanced.

Section 3.0 Who May Appeal

The proponent or any stakeholder, including but not limited to, the LGUs concerned and affected communities may file an appeal.

ARTICLE VII

ROLES AND RESPONSIBILITIES

Consistent with the principles and standards laid down in this Order; the following persons and officers shall perform the functions hereinafter provided.

Section 1.0 Proponent

The proponent shall:

a. Comply with the standards and guidelines on public participation and social acceptability;

b. Conduct an EIA of the proposed project and submit its findings to the EMB/EMPAS in accordance with the prescribed guidelines;

c. Provide a true, complete, and accurate EIS/IEE. An accountability statement for this purpose, as indicated in Annex A, shall be signed and attached to the EIS/IEE;

d. Be jointly and solidarity responsible with the preparer for the veracity of the latter's representations;

e. Initiate the establishment of the EMF and/or the EGF as may be stipulated in the ECC;

f. Ensure that appropriate post-assessment monitoring and reporting are carried out as required; and

g. Submit the required reports to the EMPAS/EMB.

Section 2.0 Preparers

Preparers of submitted IEEs and EISs shall be responsible for the accuracy of the said documents. An accountability statement for preparers, as indicated in Annex B, shall be attached to the submitted IEE/EIS. The preparers shall be held principally liable and may be charged with appropriate administrative, civil and criminal sanctions for any information imputable to them, which are found to be false and tend to misrepresent the findings of the study.

Section 3.0 DENR Secretary

The DENR Secretary shall:

a. Grant or deny the issuance of an ECC in accordance with the process described in this Order,

b. Advise the President on the promulgation of rules, regulations, and other issuances relative to the EIS System;

c. Establish policies and standards for the efficient and effective implementation of the EIS System;

d. Promulgate rules, regulations and other issuances necessary in carrying out the intent of P.D. 1586

e. Exercise supervision over the administration of the EIS System including establishing a system of review that is objective, efficient and transparent;

f. Decide appeals from the decisions of the RED and EMB Director assessing fines and imposing penalties, and the decision of the RED to issue or deny an ECC;

g. Conduct periodic audits of the implementation of the EIS System;

h. Enter into agreement with appropriate authorities or agencies with jurisdiction over special economic zones and similar entities for the effective implementation of the EIS System; and

i. Issue supplemental guidelines for the implementation of the EIS System in specific areas, such as forestry and mining.

Section 4.0 Environmental Management Bureau

The EMB shall:

a. Process EISs for ECPs submitted by proponents and make recommendations to the Secretary regarding the issuance or non-issuance of the ECC;

b. Provide information regarding the status of an ECC application when so requested;

c. Develop an effective database management system;

d. Administer EIA training systems and programs;

e. Foster linkages with environmental units of national government agencies and other governmental/non-governmental organizations;

f. Recommend possible legislation, policies and guidelines to enhance the effective administration of the EIS System;

g. Recommend rules and regulations for EIA and provide technical assistance for their implementation and monitoring;

h. Periodically report on the progress of the implementation of the EIS System including implementing a system of review that is objective, efficient and transparent;

i. Advise the DENR Regional Offices in the efficient and effective implementation of EIA policies, programs, and projects;

j. Render necessary support to the PENRO and CENRO in their compliance monitoring of projects covered by the EIS system; and

k. Assess and collect fines as herein provided.

Section 5.0 DENR Regional Office

The DENR Regional Office shall:

a. Implement laws, policies, plans, programs, projects, rules and regulations of the DENR relative to the EIS System;

b. Advise proponents on existing administrative and procedural guidelines of the EIS System;

c. Assess and evaluate IEEs;

d. Conduct public hearings whenever necessary;

e. Approve or deny the ECC for ECAs;

f. Provide information regarding the status of an ECC application when so requested;

g. Render necessary support to the PENRO and CENRO in their compliance monitoring of projects covered by the EIS system within their areas of jurisdiction;

h. Investigate EIA-related complaints;

i. Assess and collect fines as herein provided;

j. Assist EMB in the conduct of on-site inspection and make necessary recommendations;

k. Coordinate with other government agencies, NGOs, LGUs, private offices and project proponents in the region in the implementation and enforcement of the EIS System rules and regulations and public information campaigns;

l. Conduct site verification to facilitate classification of projects; and

m. Periodically report on the progress of the implementation of the EIS System within their area of jurisdiction.

Section 6.0 The EIARC/Regional EIARC

The EIARC/Regional EIARC shall review the EIS in accordance with the standards set forth herein and in the EIS Procedural Manual, and shall make recommendations regarding the granting or denial of the issuance of the ECC for the proposed project or undertaking.

Section 7.0 Local Government Units

Consistent with the provisions of the Local Government Code of 1991 and related laws, rules and regulations, the LGUs shall:

a. Serve as a forum for public participation at the local level;

b. Participate as a member of the MMT and other appropriate committees that may be formed to implement the EIS System or monitor the projects within its territory; and

c. Coordinate with the DENR in the dissemination of information and in monitoring the implementation of the EIS System.

Section 8.0 PENRO and CENRO

The PENRO and CENRO shall:

a. Coordinate with LGUs, NGOs/POs and local communities relative to the EIS System;

b. Conduct public information campaigns on the EIS System;

c. Facilitate information dissemination of process documentation relative to projects and undertakings within its jurisdiction;

d. Set up the compliance monitoring of projects with ECCs in their area of jurisdiction;

e. Represent the DENR in the MMT that may be formed upon the issuance of ECCs in specific cases;

f. Manage the environmental monitoring fund (EMF) that may be set up upon the issuance of ECCs in specific cases; and

g. Assist the Regional Offices in the conduct of on-site inspections and monitoring.

Section 9.0 Other National Government Agencies

Pursuant to Executive Order No. 291, Series of 1993, national government agencies, government-owned and controlled corporations, and government financial institutions, through their respective environmental units, shall provide support for the effective implementation of the EIS System by:

a. Coordinating their projects or programs with the policies of the EIS System;

b. Providing inputs that may be helpful in the review of the IEE/EIS; and

c. Ensuring that their respective agencies meet the procedural requirements of the EIS System.

ARTICLE VIII

SCHEDULE OF FEES

Section 1.0 Payment of Fees

All proponents, upon submission of the IEE/EIS, shall pay a filing fee of P 310.00, a processing fee of P 1,750.00, and a legal and research fee of P 70.00.

Section 2.0 Additional Costs

The proponent shall be responsible for the payment of all costs relating to the review of its IEE/EIS, in accordance with the guidelines in the EIS Procedural Manual.

ARTICLE IX

FINES, PENALTIES AND SANCTIONS

The EMB Director or the RED shall impose penalties upon persons or entities found violating provisions of P.D. 1586 or its implementing rules and regulations.

Section 1.0 Administrative Investigation

Penalties shall be imposed after an investigation wherein the respondent shall be given notice and afforded an opportunity to be heard. The investigation report prepared by the hearing officer shall include the following matters:

a. A brief background of the project, including previous violations committed by the respondent, if any;

b. The provision of law or rules and regulations, ECC conditions, or EMP provisions violated;

c. Findings of fact, including the results of any measurement, sampling or monitoring activities conducted either by the EMB, the DENR Regional Office, DENR-accredited research institutions, or academic and/or technical organizations and the results obtained and the corresponding adverse impacts caused by the violations; and

d. The recommended amount of fine to be imposed.

Section 2.0 Submission of Report to EMB Director/RED

The report shall be submitted to the EMB Director or the RED, as the case may be, for appropriate action.

Section 3.0 Decision of the EMB Director/RED

The EMB Director or the RED shall issue a decision based on the investigation report within 15 days from receipt of the report.

Section 4.0 Appeal to the Secretary

The decision of the EMB Director or the RED may be appealed to the Secretary within 15 days from receipt of a copy of the decision.

Section 5.0 Cease and Desist Order (CDO)

The EMB Director or the RED may issue a Cease and Desist Order (CDO) in order to prevent grave or irreparable damage to the environment. Such CDO shall be effective immediately. An appeal or any motion seeking to lift the CDO shall not stay its affectivity.

Section 6.0 Scope of Violations

Violations under the EIS System are classified as follows:

a. Projects which are established and/or operating without an ECC

Any project or activity which has been classified as environmentally critical and/or located in an environmentally critical area established and/or operating without a valid ECC shall be ordered closed, through a CDO, without prejudice to its applying for an ECC pursuant to the process outlined in this Order after the payment of a fine of P 50,000.00 for very violation.

b. Projects Violating ECC Conditions EMP or Rules and Regulations

Project violating any of the conditions in the ECC, EMP or rules and regulations pertaining to the EIS System shall be punished by suspension or cancellation of its ECC and/or a fine in an amount not to exceed P 50,000.00 for every violation of an ECC condition, or the EMP, or the EIS System rules and regulations. The suspension or cancellation of the ECC shall include the cessation of operations through the issuance of a CDO.

c. Misrepresentations in the IEE/EIS or other documents

Misrepresentations in the IEE/EIS or any other documents submitted by the proponent pursuant to this Order shall be punished by the suspension or cancellation of the ECC and/or a fine in an amount not to exceed P 50,000.00 for every misrepresentation. The proponent and the preparer responsible for the misrepresentation shall be solidarily liable for the payment of the fine, without prejudice to the withdrawal of accreditation of the preparers involved.

Section 7.0 Administrative Authority/Sanctions

a. DENR personnel are not allowed to participate in any manner, whatsoever, directly or indirectly, in the preparation of the EIS, or IEE, or from soliciting favors from proponents or any stakeholder to facilitate or influence DENR personnel or EIARC members in the evaluation and decision-making process. Violation of this provision shall result in the imposition of administrative sanctions and penalties in accordance with the Civil Service laws, without prejudice to criminal proceedings under the Anti-Graft and Corrupt Practices Act and other relevant laws.

b. DENR personnel who fail to perform their duties during the periods stated herein shall submit an explanation in writing to their immediate superior, copy furnish the Secretary and the proponent, setting forth the reason for such failure. Should said explanation be found unsatisfactory by the superior, said personnel shall be subject to the appropriate administrative sanctions and penalties in accordance with Civil Service laws.

Section 8.0 Records-keeping and Accountability of the DENR for Submitted Documents

The DENR, pursuant to Article II, Section 7, and Article II, Section 29 of the 1987 Constitution, and Executive Order No. 87, Series of 1993, shall ensure the implementation of the Government's policy of accessibility and transparency at every phase of the EIS process.

The EMB/EMPAS shall be responsible for records-keeping of all documents submitted by the proponents applying for ECCs. All documents generated during the processing of applications shall be considered public documents. The DENR shall set up an orderly and systematic procedure for filing, retrieving, and providing public access to all EIA-related documents. No employee of the DENR may release any document without a written request and proper authorization from the head or duly authorized officer of the corresponding office.

ARTICLE X

TRANSITORY PROVISIONS

The EMB shall prepare an EIS Procedural Manual for the implementation of this Order within a period of 60 days from the effectivity hereof. The system of accreditation for EIS/IEE preparers shall be finalized within a period of one (1) year from the effectivity of this Order. Pending approval of the EIS Procedural Manual, the EMB Director shall issue such interim guidelines as may be necessary.

ARTICLE XI

EFFECTIVITY

This Order shall take effect 30 days after its publication in a newspaper of general circulation.

ARTICLE XII

REPEALING CLAUSE

This Order supersedes Department Administrative Order No. 21, Series of 1992.

(SGD.) VICTOR O. RAMOS
Secretary

PUBLISHED AT:	TODAY	DECEMBER 06, 1996	pages 08-07
	MANILA TIMES	DECEMBER 06, 1996	pages 18-19

ANNEX A

ACCOUNTABILITY STATEMENT OF PROJECT PROPONENT

This is to certify that all information in the enclosed Initial Environmental Examination (IEE)/Environmental Impact Statement (EIS) is true, accurate, and complete. Should we learn of any information which would make the enclosed EIS/IEE inaccurate, we shall bring said information to the attention of the Environmental Management Bureau/Environmental Management and Protected Areas Sector of the appropriate DENR Regional Office.

We hereby bind ourselves jointly and solidarily with the preparers for any penalty arising from any misrepresentations or failure to state material information in the IEE/EIS.

In witness whereof, we hereby set our hands this _____ day of _____ at _____.

Project Proponent

Title/Designation

SUBSCRIBED AND SWORN to before me this _____ day of _____, 19_____, affiant exhibiting his/her Community Tax Certificate No. _____ issued on _____ at _____.

Notary Public

Doc. No. _____;
Page No. _____;
Book No. _____;
Series of 1996.

ANNEX B

ACCOUNTABILITY STATEMENT OF IEE//EIS PREPARERS

This is to certify that all the data or information contained in the enclosed Environmental Impact Statement (EIS) or Initial Environmental Examination (IEE) are true to the best of our knowledge and information, and that an objective and thorough assessment of the project was undertaken in accordance with the dictates of reasonable and sound judgment. Should we learn of any information which would make the enclosed EIS/IEE inaccurate, we shall bring said information to the attention of the Environmental Management Bureau/Environmental Management and Protected Areas Sector of the appropriate DENR Regional Office.

We hereby bind ourselves jointly and solidarily to answer for any penalties that may be imposed for any misrepresentations or failure to state material information in the enclosed EIS/IEE.

In witness whereof, we hereby set our hands this _____ day of _____, 19 _____.

TEAM LEADER

Specialists in _____:
Name Signature

Specialists in _____:
Name Signature

Specialists in _____:
Name Signature

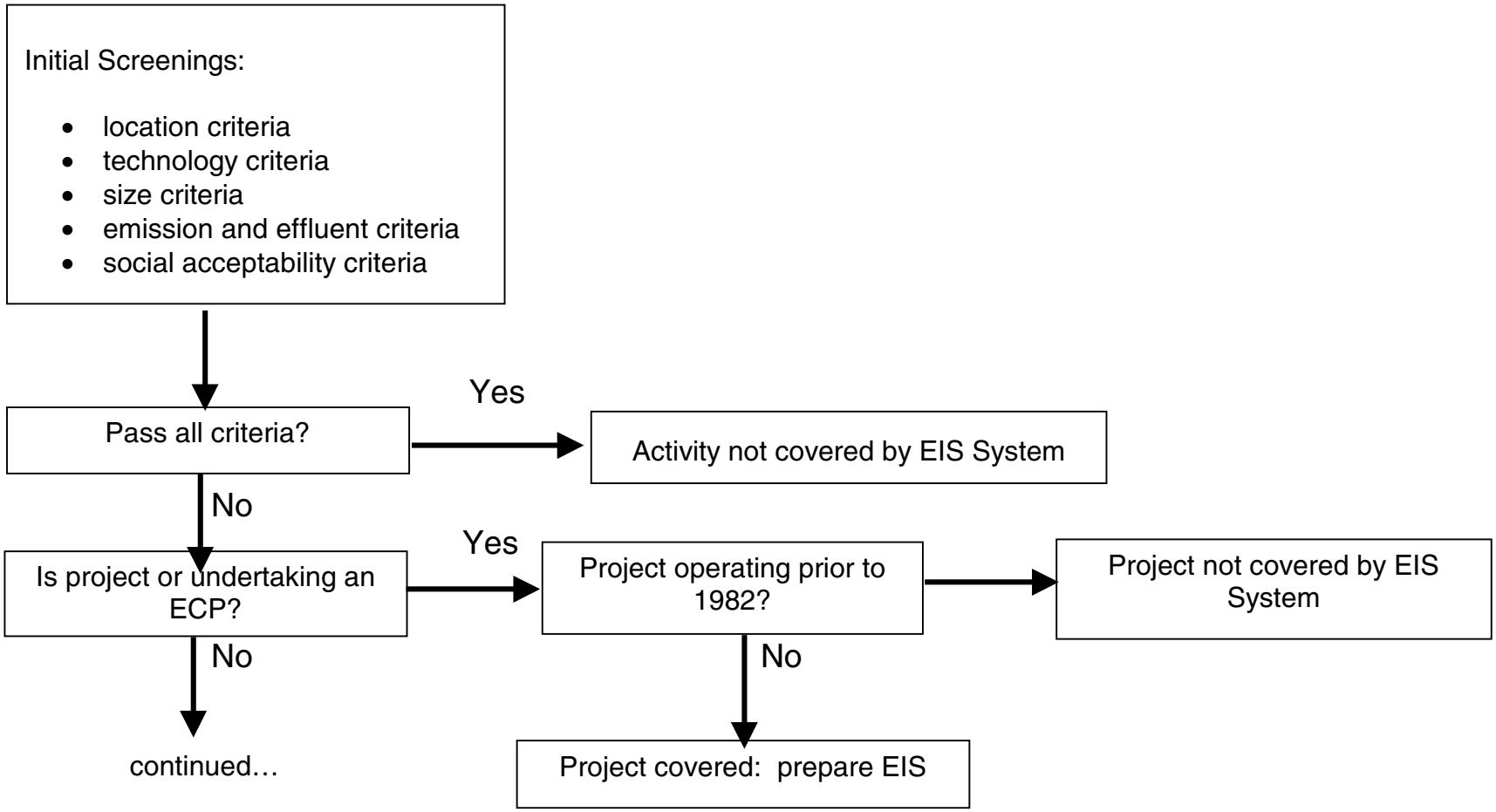
SUBSCRIBED AND SWORN to before me this _____ day of _____, affiance exhibiting to me their Community Tax Certificate (CTC), the number, date and issuance of which are set forth beside their names as herein enumerated:

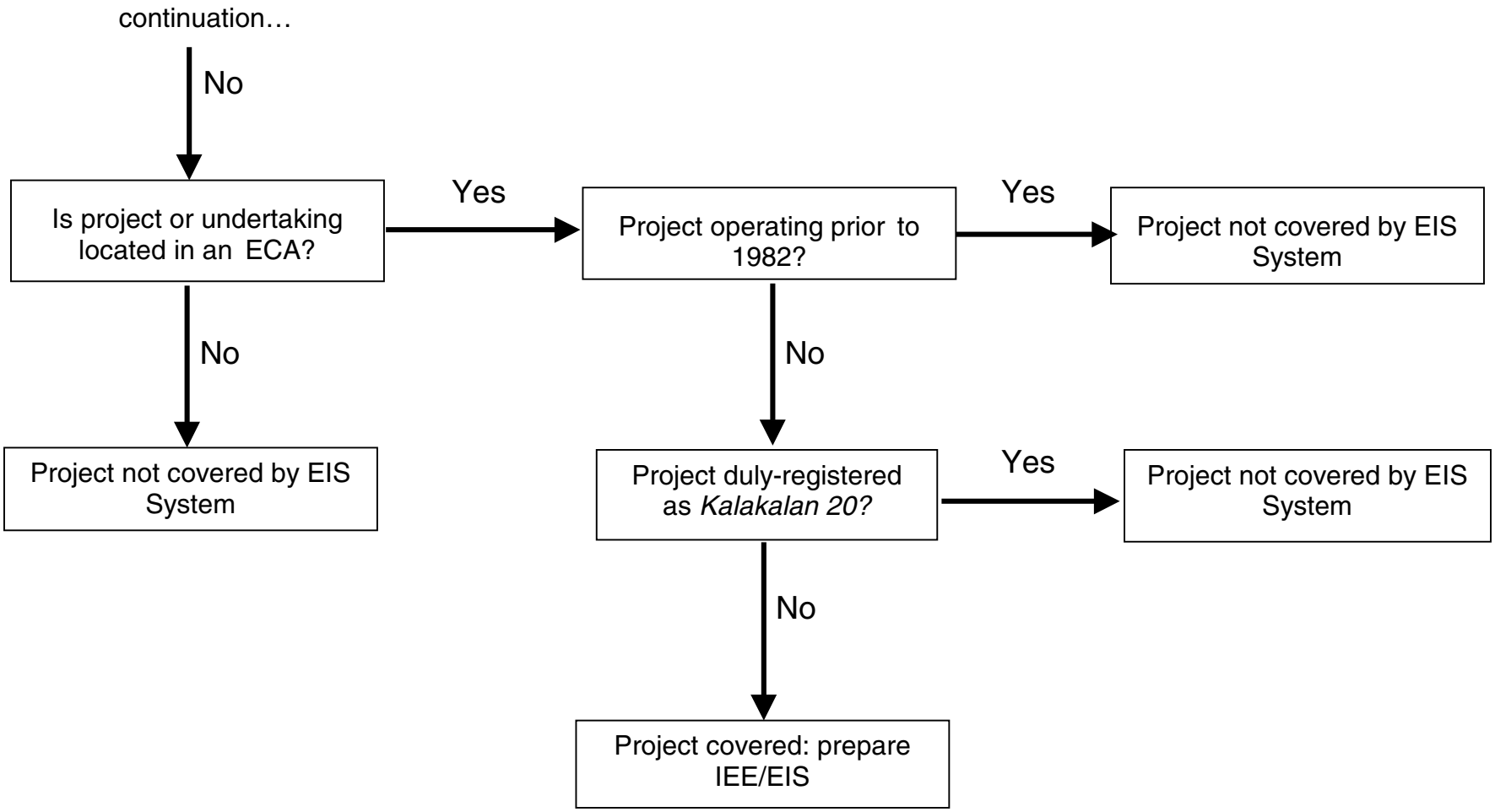
Name	CTC No.	Issued At	Issued On

Notary Public

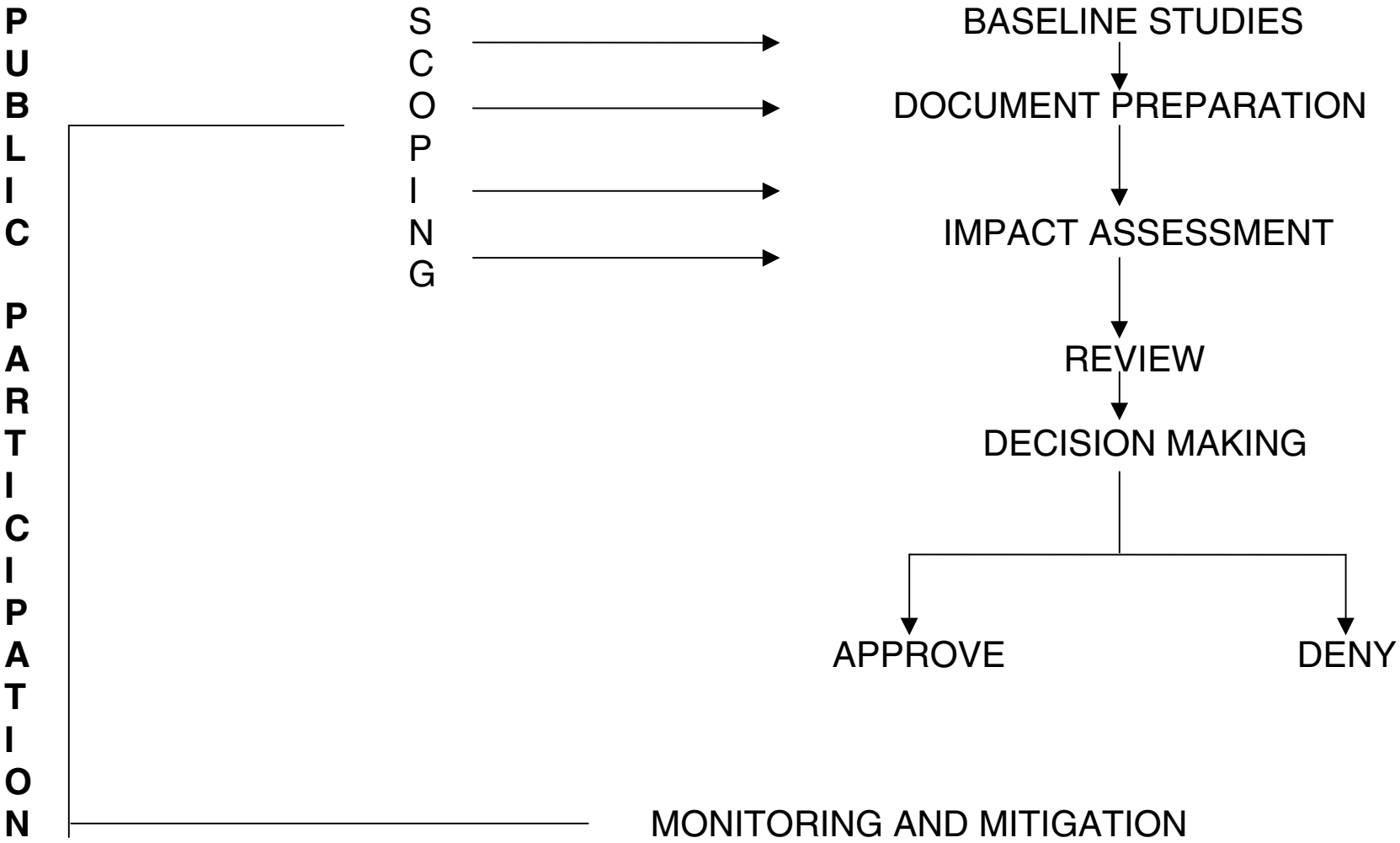
Doc. No. _____;
Page No. _____;
Book No. _____;
Series of 1996.

The Environmental Impact Assessment System of the Philippines

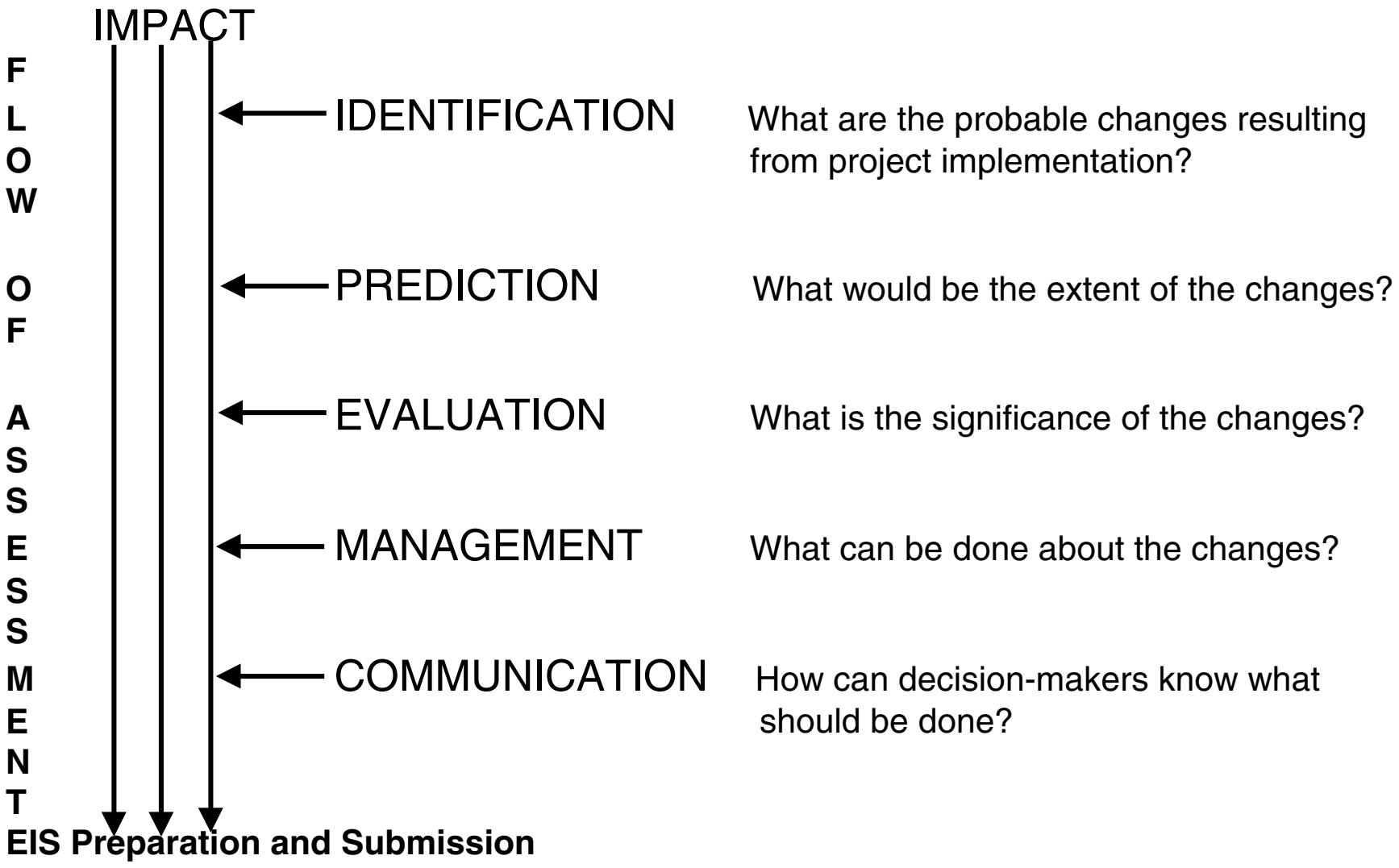

Initial Screenings:
location criteria
technology criteria
size criteria
emission and effluent criteria
social acceptability criteria
Pass all criteria?
Yes
Activity not covered by EIS System
No
Is project or undertaking an ECP?
Yes
Project operating prior to 1982?
Project not covered by EIS System
No
No
continued…
Project covered: prepare EIS

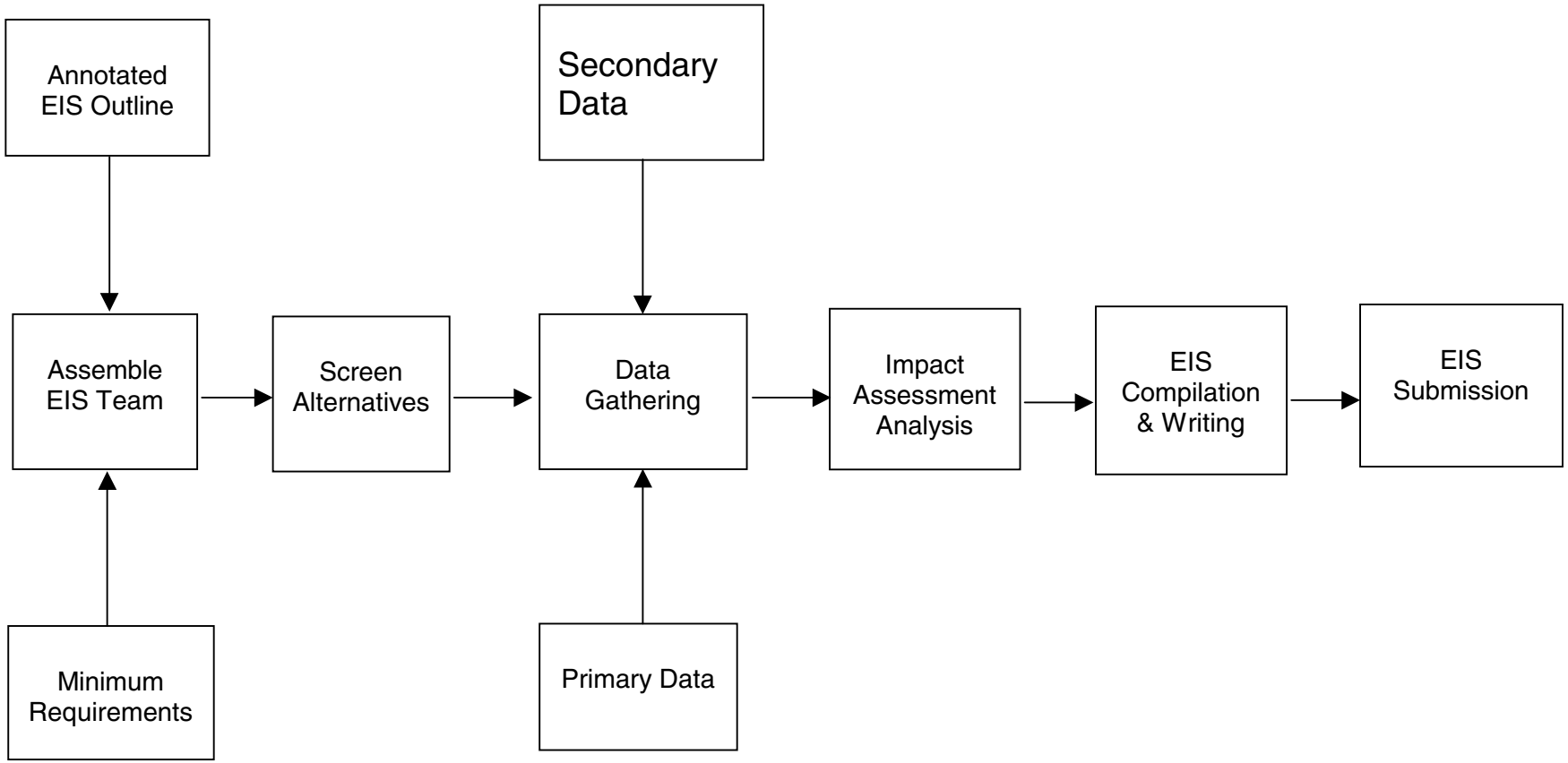

continuation…
No
Is project or undertaking located in an ECA?
Yes
Project operating prior to 1982?
Yes
Project not covered by EIS System
No
Project not covered by EIS System
No
Project duly-registered as *Kalakalan 20?*
Yes
Project not covered by EIS System
No
Project covered: prepare IEE/EIS

EIA Components

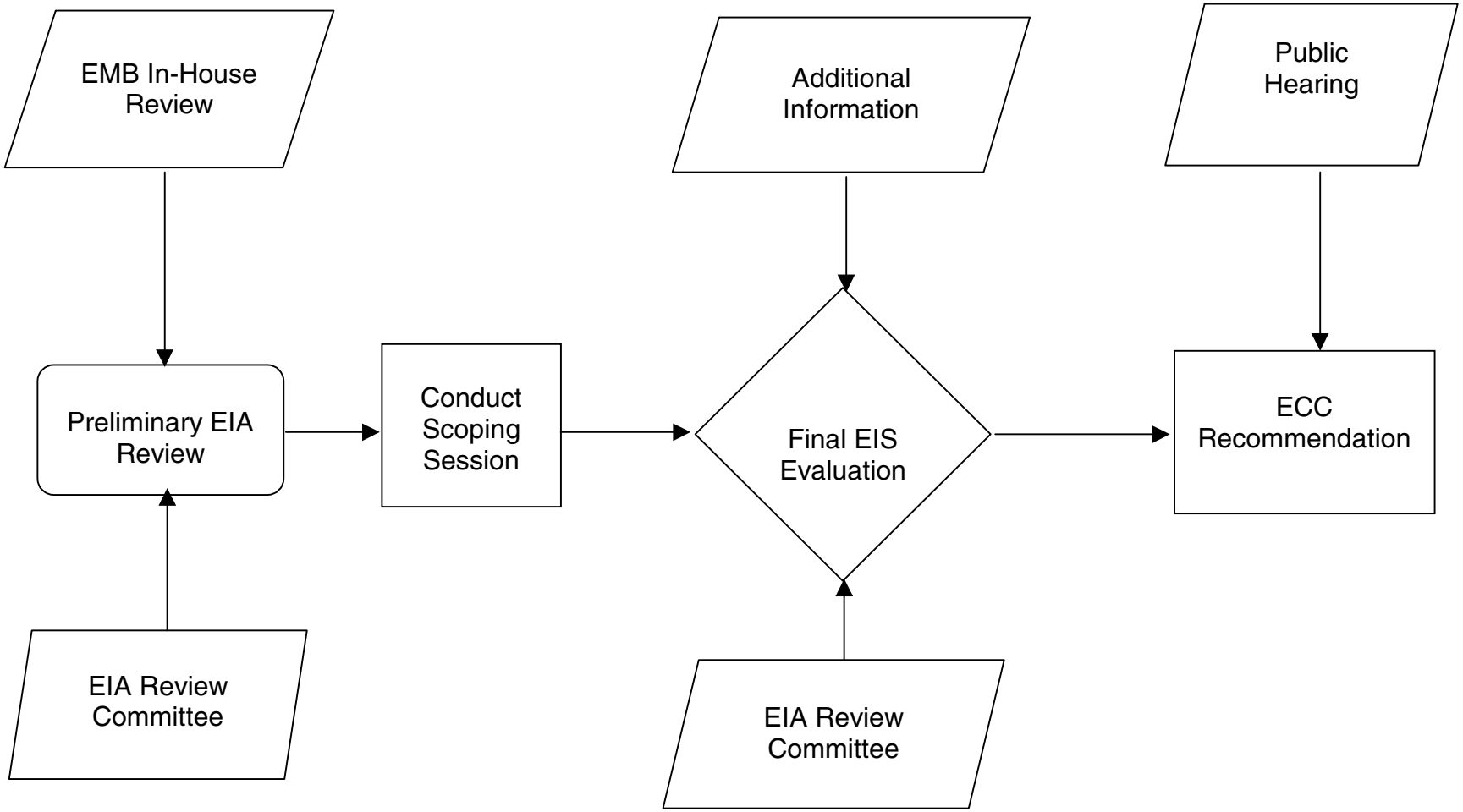


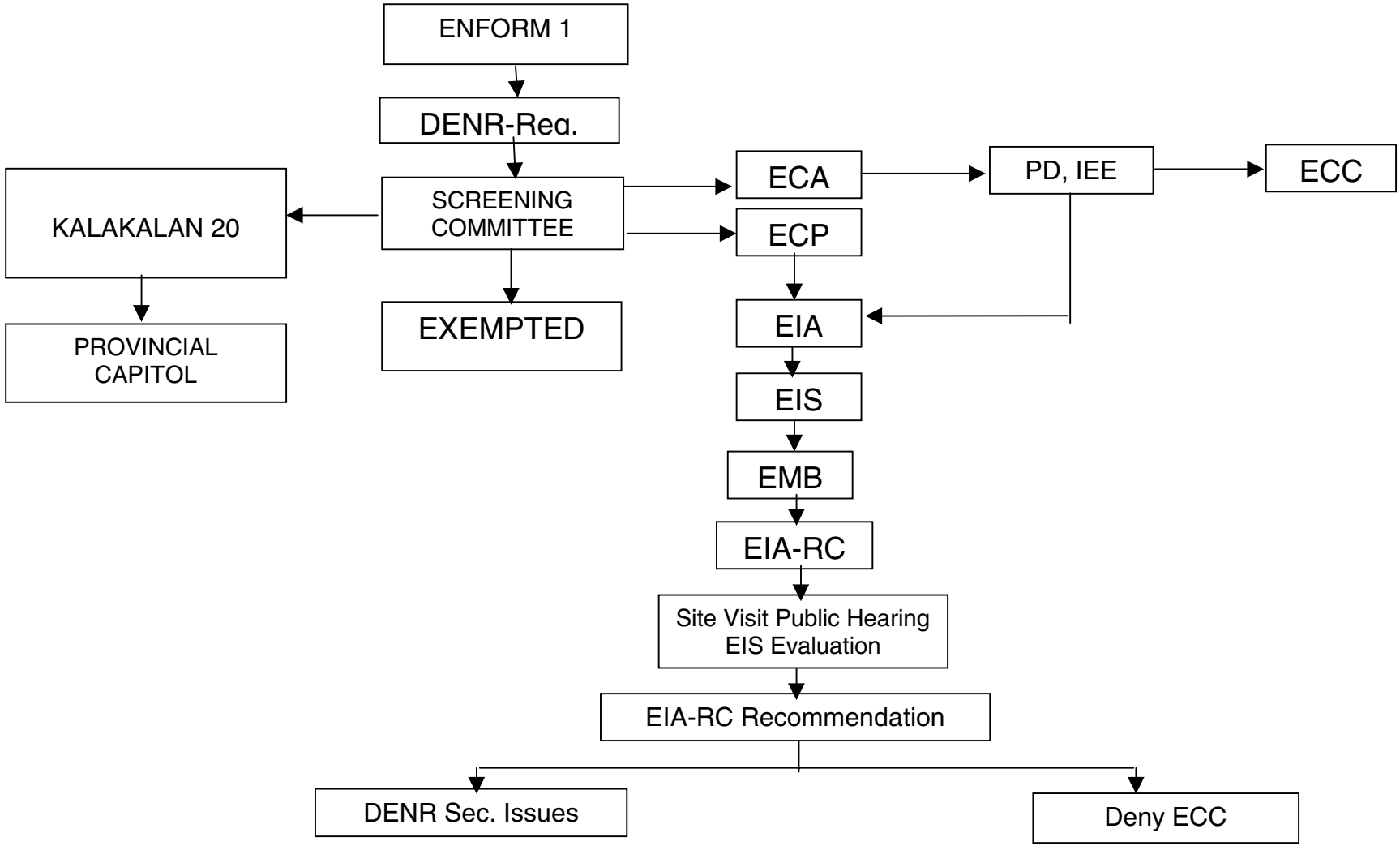
Flow of Impact Assessment


IMPACT
FLOW OF ASSESSMENT
IDENTIFICATION
What are the probable changes resulting from project implementation?
PREDICTION
What would be the extent of the changes?
EVALUATION
What is the significance of the changes?
MANAGEMENT
What can be done about the changes?
COMMUNICATION
How can decision-makers know what should be done?
EIS Preparation and Submission


Annotated EIS Outline
Secondary Data
Assemble EIS Team
Screen Alternatives
Data Gathering
Impact Assessment Analysis
EIS Compilation & Writing
EIS Submission
Minimum Requirements
Primary Data

EIS System


EMB In-House Review
Additional Information
Public Hearing
Preliminary EIA Review
Conduct Scoping Session
Final EIS Evaluation
ECC Recommendation
EIA Review Committee
EIA Review Committee


ENFORM 1
DENR-Reg.
SCREENING COMMITTEE
KALAKALAN 20
PROVINCIAL CAPITOL
EXEMPTED
ECA
ECP
PD, IEE
ECC
EIA
EIS
EMB
EIA-RC
Site Visit Public Hearing EIS Evaluation
EIA-RC Recommendation
DENR Sec. Issues
Deny ECC

FLOW CHART FOR GETTING ECC
Role of EIA in Project Planning and Implementation

Conventional Approach for Planning, Designing and Implementing

(A)	A_1	A_2	A_3	A_4	A_5	A_6
	Reconnaissance Survey	Prefeasibility Study (PFS)	Feasibility Study	Final Design (Plans and Specification)	Construction	Operations
(B)	B_1	B_2	B_3	B_4	B_5	B_6
	Environmental Reconnaissance	Pre-EIA=IEE	EIA	Checking Design	Checking Construction	Monitoring of Operations & Environmental Effects

Corresponding Environmental Protection Activities

STEPS INVOLVED IN EIA

1. SCOPING
2. BASELINE CHARACTERIZATION
3. IMPACT PREDICTION
4. IMPACT EVALUATION
5. ENVIRONMENTAL MANAGEMENT PLAN
6. EIS PREPARATION

PUBLIC PARTICIPATION

ORGANIZATIONAL STUDY*

The organizational study is concerned with how and by whom the project should be executed and operated so as to establish responsibility and accountability. The establishment of an efficient organization and management is one of the most important decisions that project proponent must consider in project preparation. The organization and management will have to indicate which entities are responsible for various aspect of project execution and operation and that they have adequate powers, staffing, equipment and finance to undertake the various functions.

Project Organization

It is important to establish the kind of project organization appropriate for the project. As a conceptual discussion there are three organizational structure that a project could adopt, namely:

1. **Functional organizational structure**. This organizational model is most commonly used in various types of projects. It is hierarchical in structure (pyramid). This system is usually applicable when projects are small in terms of size and cost and involve one or two functional departments. Example by research, marketing functions, etc.

2. **Project-type of organizational structure**. This organizational structure is the opposite to functional structure and requires a separate management organization. It is usually self-contained and generally consists of all functional units. This type of organization will achieve a singleness of purpose and have a clear perception of goals.

3. **Matrix-type of organizational structure.** This is a multi-dimensional form of structure with the standard vertical hierarchical structure combined with a superimposed horizontal and projectized structure and tends to maximize the strength and minimize the weaknesses of both the projectized and functional structures. By this structure it is possible to retain a clear perception of project goals without the need to set up a separate body as in projectized form.

Tasks and activities to be performed to achieve objectives are the starting point in deciding what kind of organizational structure will be developed for the project. The staffing of the project office is critical and certain considerations have to be addressed such as:

* Excerpt from the "Project Development Manual", National Economic and Development Authority.

- **What type of staff is required?** This will help identify part-time and full-time jobs, whether it is better to hire a person on a full-time basis or not. For example, a Manila-based project with a pilot area is Samar requires visits three times a week. It might be operationally cost efficient to hire a locally-based consultant on a full0time basis compared to hiring one Manila-based part-time consultant that would entail additional costs for weekly travel, transportation, board and lodging expenses.

- **Span of control.** This is useful in organizing a team. Using this principle, a person can handle up to five people to be effective as a supervisor.

- **Volume of work.** This only means that the maximum number of people depends on how diverse the work being carried out by the subordinates.

Issues on Organizational Design

1. What criteria are used in delineating responsibilities distributed to various positions?

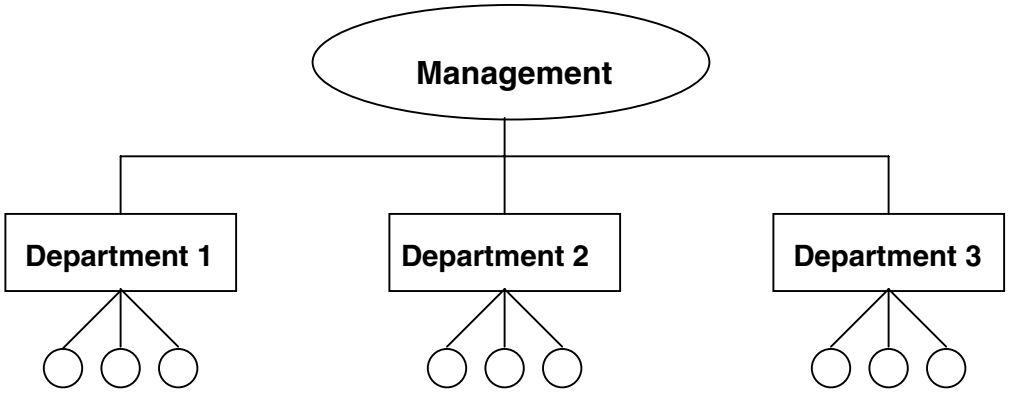
2. What criteria are used in clustering positions into units:

   - Is it by function?
   - By product specialization?
   - By geographical areas?
   - By combination of several design criteria?

3. Who decides, who gives instructions and who is accountable for what?

Some Options

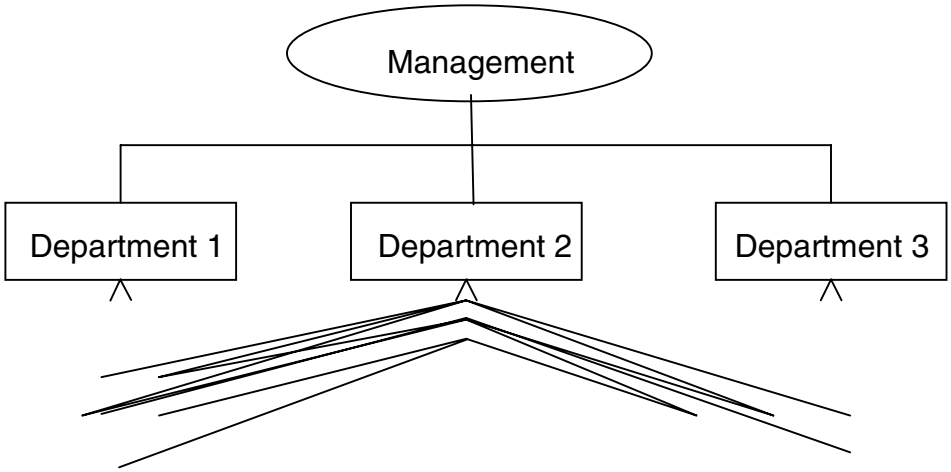
a. Single-line organization



Only one relation of instruction and responsibility
Between superior and subordinates

Advantages	Disadvantages
• Straight forward demarcation of competence, clarity and security	• Too many official channels, top management overburden, too bureaucratic

b. Multi-line organization



Several superiors, every superior is responsible for certain aspects only

Advantages	Disadvantages
• Specialization within the management, prompt official channels, functional authority	• Conflicts about competence, insecurity, controlling is difficult

Steps in Developing an Organizational Structure	
Step 1:	List the main fields of project activities.
Step 2:	Review existing organization and identify units with corresponding fields of activities.
Step 3:	Assess capacity/performance of existing units.
Step 4:	Decide whether the overall responsibility for implementing the project should be given to: • An existing unit • A newly created unit within the existing organizational framework • A newly formed independent organization • Give criteria for your decision
Step 5:	Specify organizational structure of project in the form of an organizational chart.
Step 6:	Elaborate job descriptions for the positions specifying job responsibilities, relationships to other project positions, minimum qualifications and salary.

Note!

In defining the organizational structure consider:

- The basic for grouping
  - By function
  - By product
  - By area
  - By target group

- Other criteria

- The type of authority relationship

  - Line
  - Function

PLANNING FOR PROJECT IMPLEMENTATION*

Planning for Project Implementation seeks to enumerate the steps to be taken in operationalizing the project design.

This includes operational planning which specifies, how much time and which resources(personnel, equipment and budget) are required for all activities needed to be performed in order to generate the project outputs.

In this part of the sourcebook the following important aspects of project preparation shall be covered:

- The Workplan
- Project Costing
- Monitoring and Evaluation

THE WORKPLAN*

The workplan is an integral aspect in project planning whereby a detailed breakdown of the activities and sub-activities of the project are indicated. It structure should reflect on paper, as accurately as possible, the physical project t be completed in a work package that outlines distinct tasks.

The level of specificity of the workplan, however, depends on the proponent and how he would like the readers to appreciate the project to be implemented. It should reflect details of the tasks to be done and the corresponding activities required to carry out the project. Concurrent with the development of a workplan is that of milestone schedules. This consists of the identification and display, usually in bar chart (most popular is the Gantt Chart) form, of the broad project tasks that must be accomplished in order to move closer to project completion date objective. This shows the flow of the activities in a sequential manner.

This schedule provides the framework and boundary constraints with which final scheduling, resource procurement and usage, project organization formulation, and work task planning must comply with.

* Excerpt from the "Project Development Manual", National Economic and Development Authority.

Aspects to be Considered when Elaborating on the Workplan

- How detailed should activities / sub-activities be spelled out
- How can targets (milestones) be specified for each activity/sub-activity
- What is the appropriate (time) interval for the activities indicated
- Who should be included as responsible for particular activities/sub-activities
- How can linkages and inter-dependencies between activities be incorporated

Workplans are guides to implementation such that certain flexibility can be exercised in using it later on in actual project implementation. It should be open for revisions, adjustments, or updates whenever deemed necessary. This may be in cases when unexpected changes occur within the environment of the project. Also, in cases when certain activities have to be replaced with better ones that were learned or discovered in the course of project implementation.

Preparing the Workplan	
Step 1:	Transfer the Activities from the Project Planning Matrix to the first column of the Workplan.
Step 2:	For each Activity / Sub-activity: • Specify the Milestone (anticipated result) • Assign Responsibility for implementation (designation) • Estimate duration for Activity/Sub-activity • Determine start and end of implementation considering possible relationships with other activities (linking)
Step 3:	Review Workplan. Give special attention to: • Workload of responsible personnel • Consistency of timing

Preparing the Workplan	
	• Conditions around surrounding environment

Format of a Workplan

Project: _____
Planning Period: (specify dates)

Activities	Milestone	Responsible \Person	Duration and Date
Major activity Sub-activity			

PROJECT COSTING*

The exercise of planning the programme in detail and projecting staff time needed for each of the tasks (as was done in the previous chapter) provides a basis for estimating, what is usually the largest direct cost, manpower. As well as other costs, administrative or otherwise (supplies, raw materials, etc.) necessary for the implementation of the project.

How to Prepare the Resources/Budget Plan	
Step 1:	Identify required inputs (personnel, equipment, operating costs, etc.)
Step 2:	Specify quantities and the time when inputs are required
Step 3:	Calculate cost for each input and set up project budget
Step 4:	Compare required budget with available financial resources and adjust if necessary

A checklist will provide a simple way of identifying the costs and way of monitoring the proper allocation of funds.

MONITORING & EVALUATION*

A project is normally influenced by factors that can affect actual project implementation. It is imperative that during project preparation, a monitoring and evaluation plan should already be prepared for the project. This is to ensure that all activities of the project are completed on schedule and within budget. A good M&E plan will lead to effective project results performance.

Before as step-wise preparation of a M&E plan is presented, several important concepts need to be defined in this section. Some of these understanding on

* Excerpt from the "Project Development Manual", National Economic and Development Authority.

the need and importance of this management tool in the actual project implementation process.

Monitoring is the continuous or periodic review of the project in terms of whether inputs are adequately provided so that activities are carried out as scheduled, outputs are produced as targeted, and that the project is proceeding according to project design and plan. It is a systematic observation and documentation of information on the implementation of a project, based on the project plan.[1]

Evaluation is a process of systematically and objectively determining the effectiveness and relevance of the activities within the project in the light of stated objectives and goals. It is a tool that is used for improving or altering the designed activities during the implementation phase so that appropriate decision measures are made when the project deviates from plan.

The importance of preparing a Monitoring and Evaluation plan prior to actual project implementation is important as, firstly, it encourages more cogent thinking and a clear statement of the objectives, assumptions, inputs and activities. Secondly, the budgetary allocation for undertaking Monitoring & Evaluation activities can be included in the project costs. Thirdly, M&E activities can properly be integrated into the various components of the project to help insure sustainability of the project. When a system for monitoring and evaluating is carefully designed, it results to successful project implementation and management.

A system for project monitoring and evaluation is an important management tool. It serves as an important guide for the project implementers and provides a rational basis for planning, programming, implementation and evaluation of project performance. This is especially useful to those who were not involved in the development or conceptualization of the project but are in charge of its implementation. This will assess whether the intent outputs, from effect to impact. They are the *inputs, activities, outputs, goals and objectives expressed in quantifiable and measurable terms*.

Types of Indicators

A. Input indicators are those which measure the resources available for the program.
B. Output indicators are the kind and magnitude of results that can be expected from good management of inputs, including activities (e.g. kilometers of road paved in a road project.) These are usually the physical outcome of project activities.

[1] Planning and Implementation Manual. COMIT. Joechen Lohmer. Berlin. 1997.

C. Impact indicators are those which measure what the project output accomplishes in the environment or the target population and can be described as outcomes or benefits. This usually reflects a change in the standard of living or increased capacity for self-sustained development of group beneficiaries.

Characteristics of Good Indicators:

- Reliable/stable. Refers to the consistency of the indicators measurement over a period of time regardless of whoever measures this.

- Sensitive. The indicator should be capable of reflecting change sin phenomenon being monitored. Indicators that are inflexible (will change slowly or allows for minimal change) will not be useful for short term monitoring and evaluation purposes.

- Objective. It can be assessed by different observers and yet will yield the same conclusion or judgement when observing the indicator.

- Measurable. Indicators must be capable of being expressed in terms of quantifiable measures such as rates, pesos, etc.

- Specific. It pertains only to the activity/condition it wants to measure. It must focus on which is important in the objective for project purposes.

- Comparable. Indicator must be capable of showing similarities or differences across systems.

- Independent. A given indicator cannot signal achievement at two distinct levels of the hierarchy of objectives nor should one indicator simply be a different way of expressing another indicator.

The formulation and identification of indicators involves a repetitive process. The guiding rule, therefore, is to be flexible, expecting that indicators formulated during project preparation may be replaced in the future on the basis of experience and availability of a more refined data.

Establish the Scope of the System

After having re-examined the indicators, it is necessary to determine what areas will be covered by the system. This will largely be determined by the decision on how the system is integrated in the organization of the project. The scope must be able to delineate in what level(s) of the governmental structure the system will

operate. E.g. will it be a monitoring system for provincial or regional level only? Will it cater only to agencies directly involved in project implementation. It is also important to define the scope in terms of the type and category of information that will be captured and processed by the system.

The objective is to ensure the optimal use of data that can be generated by the system both within and outside the project and to minimize the collection of data later on from already existing primary sources.

Identify Sources of Data Information

After establishing the scope of the system, and identification of appropriate indicators to be monitored, it is important to explore the availability of data from secondary sources, or other means of verification for said indicators. The following criteria:

- How current or up to date is the data required?

- Can the available data be disaggregated to meet project-specific needs for determining the effectiveness and efficiency of the project?

- Are the definitions and categories of available data consistent with project Monitoring and Evaluation requirements? If not, can these be adopted without losing its relevance reliability.

Pre-project data often provides and adequate baseline for ex-post evaluation. Check for agencies that regularly collect data that the Monitoring and Evaluation system can rely on.

The following are good starting points:

- National Census and Statistics Office (NCSO) which generally conducts socio-economic census and other surveys, with regional offices nationwide staffed with experienced personnel and consultants who can undertake baseline and follow-up surveys or conduct in-depth studies.
- NEDA Regional Project Monitoring System which collects data and often receive them from other ministries based on formulated guidelines and policies.

- The Socio-Economic Profile of the province or development plans of the local government units. The LGUs also collect data on ad hoc purposes or on a periodic basis that is not published or fully analyzed.

- Academic institutions – locally-based institutions situated in the project area may have vital information needed these sources of data may provide the needed information and will not require them to be collected on a primary level anymore by the Monitoring and Evaluation unit.

Below is a modified checklist which can be used in screening the sources of data for project monitoring and evaluation:

Check on Indicators

1. Validity of indicators. Is the set of indicators substantial, target-oriented, plausible independent, measurable, verifiable?

2. Specification of indicators. Is the set of indicators precise with respect to quality, quantity, envisaged beneficiaries, location, time?

Sources of Verification

3. Status of indicators. What benchmark indicators are the indicators related to?

4. Data and information requirements. Which data/information is required for the precise verification of indicator?

5. Method of acquiring data and information. How can the required data and information be acquired

6. Date and frequency of acquiring data, when and how often is the required data and information to be acquired?

7. Responsibility for acquiring data and information who acquires?

8. Inputs for acquiring data and information. What are the costs involved?

Preparing the Evaluation of Collected Data and Information?

9. Quality of data and information. How can the quality and reliability of data and information be assessed?

10. Processing of data and information. How can the data and information be put together, so that they reflect the indicator and facilitate the assessments? Who will have to take decisions? Who will have to implement corrective actions?

Provide a System for Collecting and Analyzing Data

It is important to identify whether primary data should still be collected on a regular basis. It is suggested that the collection of primary data should be minimized, and if required, should be collected by the appropriate agency with the end in view of institutionalizing data collection on a regular basis.

The plan should also indicate how the Monitoring and Evaluation unit would (a) collect appropriate indicators and information and data needs; (b) arrange for regular feedback of this data from appropriate sources; and (c) analyze the data for drawing inferences about the status of implementation, particularly constraints and shortfall, for timely corrective action.

Establish a System for Communicating Findings and Results

A description on how monitoring and evaluation data should be communicated to the appropriate users should be outlined in the preparation of the M&E system. This would allow the project preparation to clarify how the findings can best be used to the advantage of project implementation later in the project.

By following the suggested steps, an appropriate description of the project monitoring and evaluation system could be developed for the project.

Designing and Establishing the M&E System During Project Implementation

During the actual project implementation, the importance of monitoring and evaluation becomes critical. At the project mobilization stage, monitoring and evaluation becomes a critical project management activity. The importance could be summarized in the following terms:

- Provides a systematic measure for observing and documenting information based on the plan

- Provides an internal assessment of information as to the extent of actual progress in project implementation and its conformity to or deviation from the objectives set in the project plan. It addresses these deviations by considering alternative forms of action based on sound and reliable information provided during monitoring and evaluation activities

- Justifies the use of resources to donors and stakeholders of the project

- Serves as benchmark that can be used by external evaluators in assessing achievement of project objectives and the contribution that it

has made to the overall national development targets later in the stage of the project life.

There are several types of monitoring and evaluation activities to closely insure the smooth project implementation. The following types of M&E could be used.

- Input-output monitoring and evaluation. This refers to observing whether the production of target outputs are according to plan, within schedule and estimated costs. This refers to monitoring the financial and physical resources of the project, such as amount of money spent for particular activities, procurement of goods and services, and how they are used to achieve the desired outputs.

- Output-outcome Monitoring (Sustainability Monitoring). This refers to whether the outputs generated produced the intended immediate effects and whether the gains can be aptly sustained. Example of this could be in terms of whether established infrastructure services, such as roads, are maintained and utilized, whether water projects are operating and yielding potable water, etc.

- Outcome-impact monitoring (Impact assessment). This refers to the assessment of project goal(s) and whether the outcome(s) translate into the desired long term effects (the impact made) for the target beneficiaries. AN illustration of this could be a health project where there is a reduction of maternal mortality rate as a result of the administration of tetanus toxoid immunization for mothers of reproductive age.

These types of M&E would provide good indications of the performance of the project that could be used by the decision makers. Some examples of what need to be closely monitored may be in terms of the following:[2]

- Physical facilities and infrastructure – whether time schedules, costs and targets have been according to plan and budgetary documents.

- Institutional aspects e.g. staff recruitment, training and turnover, inter-organizational coordination, and relations with other public and private institutions, in particular with beneficiary groups.

- Delivery systems e.g. volume of services or inputs, efficiency in delivery system, whether deliveries and costs are in conformity with plans, geographical coverage, outreach to the target groups, percentage of small

[2] UN-Task Force on Rural Development. Guiding Principles for the Design and Use of M&E in Rural Development Projects and Programs, 1984.

farmers reached in relation to the total number of farmers in an extension project; and

- Results achieved, i.e., outputs and effects or immediate and intermediate level of objectives attained, i.e. yield and production, benefits and costs, both direct and indirect, employment and income generation, if any, by sex and age.

The implementation of a project M&E system sometimes depend on the scale and complexity of the project. Large, complex and multi-sectoral project would require a specialized unit to carry out the M&E functions. In some cases, the need to engage the services of experts could be considered.

Considerations when establishing an M&E unit or employing a monitoring and evaluation specialist:

- The unit is to be kept as small as possible.
- Clarification of the roles and functions of the people who will be involved in the unit.
- Information requirements as well as the survey and assessment methods should be decided mutually by all people concerned in the implementation of the project.

During project implementation, monitoring and evaluation becomes a critical activity. Some suggestions/guidelines in installing and implementing a M&E system during project implementation are presented in the following descriptions:

1. Validate the system with key project actors (i.e., planners, implementors, monitors and other major users of the M&E information).

   The primary objective is to ensure that what the system will generate will in fact be useful, and from the project implementors' point of view, the system will be operational and can be sustained. Also, involving project actors in whatever system will be evolved is an important decision to take.

2. Identify and secure enabling mechanisms

   The enabling mechanisms are critical for they will provide the necessary legal authority for people to gather data which sometimes are sensitive. Likewise, this will authorize or compel agencies/individuals to allocate resources for monitoring and evaluation purposes in order to generate the required information.

- Orient/Train Project Personnel involved

  Once the system is completed and approval is secured/orientation or training should be conducted for people who will be involved in the system.

  In general formal training may not be necessary when the system involves the preparation f only a few simple forms. In such cases, orientation sessions may suffice. In instances, however, where complex data-gathering and analysis are required, and use of machineries for data-processing is necessary, formal training is a must.

- Test the monitoring system

  Testing is necessary to determine whether the system will function as expected. Normally a period of two (2) to three (3) cycles is enough for testing purposes. This means that if reports are to be generated monthly, 2 to 3 months must be set aside as the testing period, and during this time there should be some effort to evaluate the performance of the system vis-à-vis certain criteria such as timeliness of data, ease in completion of forms, etc. Testing is the stage where kinks can be identified and refinements can be introduced. Any revision on the system during the this stage should be properly documented and fed back to all concerned.

Operationalizing the M&E System During Project Implementation

In this stage, the activities focus on two major areas:

1. Actual data information collection, analysis and reporting

   Activities in this revolve around the performance of the monitoring agencies (and individuals) of their roles as monitors and evaluators. The following steps normally are undertaken:

   a. Select and or develop specific data-gathering techniques and instruments. This refers to the design of instruments such as questionnaires, interview guides, tabular forms and the like. This also includes establishing framework to be utilized in analyzing project performance.

   b. Collect and analyze data/information. This concerns the gathering and processing of data generated by reporting system earlier designed.

c. Report, present, feedback data information. Results of the analysis and processing activities can be consolidated and presented to appropriate decision-makers for action.

Findings and recommendations should be submitted to the project manager, and through him, to the coordinating committees or the higher authorities concerned. The communication can be written or verbal. Effective written reports are those that are recommendations rather than on research methodology or identification of the sources of data. The latter can be put in an appendix if necessary.

The most effective channels for communicating findings and recommendations are through the conduct of regular staff meetings of the coordination committees. Such a venue allows monitoring and evaluating findings to be actively shared with those who can take immediate action by the decision-makers or stakeholders when deemed necessary. This allows for feedback, suggestions, exchange of ideas, and errors, if any, can be tackled or corrected.

Below are some guide questions that can help in the establishment of an effective system for communicating and utilization of Monitoring and Evaluation results for different people:

Project Management

- Which decisions does the management reserve for itself (e.g. policy matters, etc.)
- Which decisions are taken in cooperation with the line personnel?
- Which decisions are taken in cooperation or coordinated with other organizations/institutions?

Line Personnel

- Which results of monitoring and evaluation are immediately influencing the implementation of the project by the line personnel?
- How should one coordinate monitoring and reporting functions with other intervening agencies.

Target Groups or Envisaged Beneficiaries

- To what extent are envisaged beneficiaries actively cooperating with the project?

- How can the different groups bring in their views and feedback?

- What information do they require, how can they collect and process them.

Cooperating Agencies

- About which details of the project and its performance must other cooperating organizations and institutions be informed? (beware of possible repercussions)

- In which areas is the adjustment of the process the exclusive responsibility of the project and where to other agencies (including superior authorities) need to be involved?

Different people, groups or institutions involved with the project have varying information needs and requirements that would enable them to make a rational decisions. These questions and different needs should be considered in the preparation of the Monitoring and Evaluation Reports.

2. Maintenance of the M&E System

A M&E system should be reviewed periodically and refinements or revisions must be made if necessary. It must be point out, however, that control and maintenance of the system is not the sole responsibility of a single unit. All key project actors (agencies/individuals) at various levels have corresponding share in maintaining the system.

Indicators such as delays in the arrival of reports, blank monitoring forms, incorrect information, ambiguous statements, etc. are signs that the system needs review and updating. If these incidents are regularly encountered, there is a need to determine their causes.

IMPACT EVALUATION (IE)

This portion briefly discusses impact evaluation. Evaluation is a means to determine how far the project has achieved its objectives. It looks into the impact of the project on the beneficiaries. Thus impact evaluation attempts to identify all the effects of the project – both intended as well as unintended and also validates the logic of the project, from input to output, output to effect and effect to impact of the project.

Impact evaluation aims:

- To determine whether stated goals have been achieved;
- To determine whether the identified effects can be attributed to the project;
- To determine the conditions under which the project is most effective; and
- To identify any unanticipated consequences or side effects of the project.

Although, impact evaluation studies are undertaken several years after the implementation of the project, it is often practical to take note of important information regarding the situation existing at the beginning of the project and the experiences encountered during the implementation and operation of the project. Thus, in conducting an Impact Evaluation study it may be necessary to access the initial project documents as well and data generated during its implementation and operation, rich sources of valuable information.

The conduct of reviews during the course of project implementation is recognized as an important project management activity. Thus, there are project mid-term reviews either undertaken by the donor agency and project management to ensure that the project is being undertaken based on its design and plan. If in the process, the project is experiencing project implementation delays and problems, then management can identify alternative courses of action in the attainment of project objectives.

MANAGEMENT ASPECTS OF LGU PROJECTS CONSIDERATIONS FOR PROJECT STUDY*

INTRODUCTION

When planning for a project, the facet most often neglected and least valued is the organizational and management (O & M) aspect. Considerable time is spent on ensuring that the project is viable, the bidding process is transparent, technical characteristics meet design standards, detailed engineering is completed, funding agencies are invited to investment forums, etc. but addressing the management and/or institutional aspects are often postponed or relegated as a side issue.

LGUs need to consider various management issues when planning for a project. LGU officials must be made aware of these issues while at the design stage and their concurrence to certain recommendations need to be secured this early. O & M factors that may have direct bearing and great impact on the success of the project need to be evaluated this early and the array of possible mitigating measures should form part of the study/design.

A considerable number of technically well designed projects have failed or have been unable to optimally attain project objectives because of weaknesses in project organization and management. Some projects have been deferred over extended periods simply because the project site has not been finally decided upon due to political considerations. Otherwise viable projects have failed to take off because the project team is not equipped with the right skills, e.g., in project designing, project packaging for donor/investor consideration or even negotiating for project financing.

In a lot of cases, projects do not progress past the project design stage because the personnel tasked with completing the project cycle are saddled with other LGU responsibilities. Some very socially beneficial projects do not see fruition lest these be credited to other administrations or because LGUs do not have the technical capability to look for project investors.

Various aspects of managing a project, whether this is still at the design stage or already operating, need to be addressed by LGUs. Some of the more common factors are discussed in this paper.

* Prepared by Gracia M. Buencamino.

THE PROJECT CYCLE

Every project goes through different stages of project development, one stage leading to another. These stages, presented below, constitute the entire project cycle:

1. *Identification stage*, when projects are conceived, identified, generated and selected (or prioritized);

2. *Preparation stage*, when the project's feasibility is assessed;

3. *Appraisal and financing stage*, when the project is evaluated by potential donors or investors;

4. *Implementation stage*, when the project components are undertaken; and

5. *Evaluation stage*, when the impact of the project in terms of objectives and goals is assessed, either after a certain period within which the project has been operating and/or at the end of the project.

The organizational characteristics of a project vary according to the stage of the project cycle. The number of persons involved, the types of technical and professional skills of these people and the organizational structure change as a project progresses from planning to implementation.

SOME MANAGEMENT ISSUES FOR CONSIDERATION

When developing the structure that best fits a project, one needs to consider a number of issues. In addressing some of these issues, some guide questions may be asked.

Who will be responsible for project oversight?
What oversight actions are needed for the project?

Project oversight is a critical element to the success of the project. The creation of an oversight unit whose *sole* responsibility is to ensure that a project's objectives, goals and targets (whether on the long-term or just for a specific project stage) increases the chances of success of the project. Its creation addresses one of the major causes of project delays or failures: the absence of a person or unit within the LGU tasked primarily with overseeing the project activities.

Most LGUs assign oversight responsibility to the planning office, an LGU unit already saddled with so many responsibilities, not all related to planning. In the case of GOCCs or joint LGU-private sector venture companies, this is assigned to the corporate planning unit. When either of these happens, project oversight is relegated as merely one of the daily tasks of the planning office (or the corplan unit).

Generally, this same office is also tasked with planning, implementation, monitoring and evaluation. This is a *common management mistake of LGUs*, considering that the very same office that plans is the same one that implements its plans, it also monitors its own performance and evaluates "itself".

Oversight actions may include:

- Providing the link between the LGU and the project team;
- Project identification and design;
- Overseeing the pre-operational activities such as during the bidding and awarding stage;
- Coordinating and negotiating with the donors/investors on the most beneficial financing/partnership scheme;
- Managing the daily activities during implementation or while operating;
- Monitoring accomplishments versus targets;
- Assessing the quality of the work so far completed;
- Revising plans to address project constraints, and
- Evaluating the impact of a project.

Although oversight units are tasked principally with management and monitoring, these should also be vested with other responsibilities necessary to ensuring effectiveness:

- Reporting project status to concerned LGU officials;
- Ensuring availability of resources as needed; and
- Maintaining cooperation mechanisms with relevant line agencies, partner LGUs or intra-project units.

In order to ensure efficiency and effectiveness of oversight units, *LGUs must ensure that PMTs are not saddled with other responsibilities*, such as with supervising other projects, and that these are supported with sufficient resources (e.g., manpower, logistics, budgets).

What should be the structure of the Project Management Team (PMT)?

For purposes of this paper, oversight units will be called project management teams, notwithstanding the fact that some of these teams are tasked with one of

more management functions. A PMT is also sometimes referred to as project management unit, project monitoring unit or project management office, depending on the nature of its responsibility.

Most LGUs and line agencies generally resort to organizing a project management team (PMT) to develop a project study, oversee a project's implementation, monitor progress, evaluate accomplishments or do all. PMTs vary in character or structure, to wit:

- A project office formally created (as by ordinance or administrative order) as a distinct functional unit within the LGU/GOCC comprising of personnel occupying permanent positions created specifically for the project office;
- An ad hoc committee or task force (which may also be created by an ordinance or an administrative order) with a definite term comprising of detailees from various LGU departments; or

- A project team formally created with a definite term comprising of contractuals hired specifically to man the team.

The Local Government Code vests LGUs with the power to create units and/or positions as it deems necessary, provided such positions appear in the current Civil Service position classifications. This flexibility allows the LGU to determine the best staffing pattern, position classification and organizational structure that will best suit its needs and while at the same time address its resource constraints. It also has the flexibility to determine whether the PMT's personnel are to be detailees, hired as contractuals or hired on a permanent basis.

The nature of the project, and the required capitalization, also determine the number or cooperating agencies. A number of management arrangements for project implementation is available for a proponent to choose from, such as when the project is implemented, among others:

- solely by the LGU proponent agency, such as in the construction of a bus terminal or a barangay road, a project small enough and financially affordable by the LGU;

- by a partnership between an LGU and a government line agency, such as a line agency, as in the implementation of an health project, where both agencies share in almost all cost components and responsibilities;

- by a government agency and a government financial institution, such as for a mini-hydroelectric power plant project, where the GFI provides counterpart capital through a loan;

- by a government agency and a donor institution, such as in the implementation of a coastal resources management program, where the donor provides technical assistance, capital goods or technology;

- by a JV between an LGU and a private sector investor, such as in the construction of a passenger terminal cum commercial complex, where the private sector investor supplements the financial and technical capability of the LGU;

- by the private sector such as in power distribution;

- by a consortium of private investors, the national government and the LGU, such as in the development of an international ports complex.

What is the most appropriate legal nature of the project organization*?*

The nature of the project is the best determinant of the legal nature of an organization. A private structure is more suited for corporate-types of projects such as a fruit processing facility while a publicly-run organization is more appropriate for socially-oriented projects, such as a nutrition program, or for those which are unable to generate profits high enough to attract the private investor.

When the government is unable to generate the necessary capital, it seeks a partner from either the private sector or another agency. Such arrangements, generically referred to as a joint venture (JV), often are corporate in structure considering the financial commitments and profit sharing agreements between the JV partners.

What is the nature of personnel appointments? How many will be hired?

The nature of the organization's tasks and its responsibilities has direct bearing on the nature of the appointment of the staff. Choosing the nature of appointments will depend on the mandates/responsibilities of the organization and the resource constraints the LGU is faced with.
If a PMT is meant only for project development or project construction, then appointments may be on a contractual basis as the PMT is vested with a temporary or ad hoc responsibility. An example of this is when a PMT is created to develop a project feasibility study, supervise a road construction or undertake a special promotional blitz.

If the PMT is tasked with all responsibilities pertinent to the entire project cycle and is meant to operate even after construction, e.g., during the operational stage, then the appointments may be on a permanent basis considering that the PMT is meant to oversee the project while it exists. An example of this is when a

PMT is created to undertake (or oversee the conduct of) the feasibility study for a municipal sanitary landfill project but is also expected to constitute the LGU's corporate arm that will eventually manage a waste disposal system.

The volume of work best determines the number of people to be hired. The number of personnel hired for the organization or the PMT and the nature of their appointments will greatly affect the efficiency and effectiveness of the oversight work. Hiring below the required level will unduly saddle the staff with too much work, leaving a lot of tasks undone or uncompleted, defeating the very essence of why they were hired in the first place. Hiring too many personnel will allow complacence, which unfortunately leads to inefficiency and sub-standard quality and underproductivity. However, a constraining factor to hiring at the desirable number is the budget allocated for personnel services.

Is the organization technically capable to meet project objectives?

The technical capability of an organization to handle certain tasks is determined by a number of factors, among others:

- *Its mandate and objectives* - if it is within the mandate of the organization to implement the type of project it seeks to venture in and whether there is clarity of objectives within the organization. Normally, when a project is within the organization's mandate, it is most likely that the organization has geared or is gearing up technically for the project;

- *Its organizational structure* - if this is responsive to the needs of the project, if it has functional units legally mandated to undertake specific tasks or if it is equipped to address project concerns;

- *Its resource base* - if this is sufficient to meet the demands of the project and if it has the types of resources needed by the project;

- *Its management and technical pool of experts* - if the organization has a ready pool of experts uniquely required by the project.

The managerial, supervisory, technical and resource capability of the staff concretely translates into organizational capability.

What technical skills should the project staff have*?*

One of the personnel management considerations most often ignored by LGUs is ensuring that its personnel or those they intend to hire are equipped with or has the potential for developing appropriate technical capability vis-a-vis their jobs. Moreover, LGUs fail to recognize that training and building the technical

capability of their staff is indeed a worthy *investment*, the returns of which translate into more efficient and cost-effective local governance.

Hiring the right people for the project (or the job) not only means that they are equipped with the right education and hopefully the right experience. Such personnel must also be equipped with the right values, work attitudes and professional ethics required by the jobs they were hired to do.

Oftentimes, non-management factors, such as political color and patronage, influence the LGU's hiring policies and practices. This is a common LGU dilemma. This results in appointing unqualified personnel who become unproductive or underproductive while at the same time preventing the LGU from benefiting from the potential benefits that may be derived from the efficient services of a qualified person. This also deprives the LGU's constituents with the delivery of essential services due them.

Is the project fully supported by the LGU?

The political will of the LGU, both the executive and the legislative branches, must be clearly manifested at all stages of the project cycle. The LGU must be clear on its intent and objectives. Are both LGU branches fully supportive of the project and serious in its desire to implement the project? Has the project obtained the necessary approvals from relevant national government line agencies? Have the constituents been consulted and have they given their approval? Have all sectors been involved even at the planning stage? Is the entire community committed to implement the project? Is the LGU planning to undertake the project regardless of changes in administration? Have the current administrators installed mechanisms to ensure that the next administrations will continue to sustain the project's operations?

When a project is clearly an income-earner, it is easy to convince the LGU of the necessity of the project and funds releases will most likely not require so tedious an effort. Since income generating projects (IGPs) can financially stand on its own, these take a more permanent status and are most likely easily accepted by next administrators.

However, some projects are more social in nature and are implemented to address some basic social needs of the constituency, such as in health programs aimed at decreasing mortality or improving nutrition. Some projects may have very good social benefits, but low financial returns. An example of this is a barangay livelihood project or an alternative health care center. Some projects do even generate income and the LGU must provide annual budgetary support in order for it to continuously operate. An example of this is an adult education program. Due to their social nature, current administrations generally prefer these types of projects because these can make them more popular.

However, these are sometimes the very types of projects most often ignored by succeeding administrators, because these are associated with their predecessors.

What will relationship be with national line agencies?
With other LGU departments?

Although projects may be implemented by an LGU, there is still a need to work with line agencies, whether this be for securing cooperation, endorsement, approval, funding, technical assistance or just for reporting and monitoring purposes.

Relationships with line agencies on project concerns may take several forms, among which are:

- Direct project supervision by the line agencies, - such as with the Department of Public Works and Highways in the construction and/or maintenance of national roads traversing an LGU's territorial boundaries;

- Coordination with a line agency - such as with the Department of Education, Culture and Sports in the construction of barangay primary school buildings;

- Coordination with various line agencies - such as with the Department of Agriculture's Bureau of Animal Industry for an abattoir, Provincial Engineering Office for the construction permits, National Housing Authority for the resettlement component of displaced squatters from the project site, etc.; or
- Reporting arrangements with line agencies - such as in monitoring the implementation of agricultural modernization plans.

In identifying the most appropriate project structure, one needs to consider the project's tasks for which relationships with the various government agencies are necessary.

Moreover, the kind of relationship that must be established between the project and other agencies must be defined in view of the mandates of these agencies vis-a-vis the nature of the project.

What project tasks should the LGU do on its own? What should it contract out?

When some LGUs have the managerial, technical and financial capability to manage the project during the entire project cycle, this is a very rare case. Most LGUs do not have all these qualities.

In the past, the LGUs have been spared of some planning (such as master planning) or implementation (such as construction) tasks because these have been provided through ODA or by line agencies. Recently, LGUs have attempted to venture into these activities on their own initiatives. However, LGUs generally need to upgrade skills in certain local administration tasks such as integrated area development, project monitoring, project mid-term or post-evaluation.

Who will be responsible for monitoring? Evaluation?
How often should these be done?

One of the tasks most often neglected by LGUs is regularly monitoring project status and evaluating accomplishments versus project goals and targets. Project design is often devoid of a monitoring and evaluation (M & E) component or, if there is one, is set aside during implementation (or operation).
A project's progress must be monitored, not only in terms of adherence to schedules but also in terms of attaining its goals and targets for a given period. Monitoring activities should also include an analysis of the factors behind a project's success and failure and developing mitigating measures or solutions to address slow-downs or slippages. Redesigning systems, procedures, approaches and even work plans are often necessary to arrest further slippages.

Periodic or post-evaluation is necessary to determine the extent at which the objectives of the project have been met. The project benefits vis-à-vis costs must also be measured. Management and organizational designs must be able to capture these essential project management responsibilities.

Form NO. 1
Organization and Management Workshop
STAFFING PATTERN

DEPARTMENT	POSITION TITLE	NUMBER	SALARY GRADE	ANNUAL SALARY	FUNCTIONS

Form No. 2
Organization and Management Workshop

COMPENSATION PACKAGE

Position	Number	SSS or GSIS			PHIL HEALTH			Benefit 1	Benefit 2	Benefit 3	Benefit 4	TOTAL BENEFITS
		Employee's Share	Employer's Share	Total mo. Payment	Employee's Share	Employer's Share	Total mo. Payment					

FINANCIAL ANALYSIS*

Financial Analysis is one of the analyses usually done in a feasibility study and undertaken after the market and technical analysis. The objective of the analysis is to determine the financial viability of the project. In doing a financial analysis two types of analysis are done:

- Analysis of projects with "measurable benefits" i.e. benefits that can be valued at market prices. The output of the project, if sold in the market, provides the benefits of the project.

- Analysis of projects with "non-measurable benefits" i.e. benefits that cannot be valued at market prices. These are mainly social and security projects which are undertaken by the public sector to provide essential services and therefore cannot be valued at market prices.

In cases of projects with "measurable benefits" it is important to determine if the benefits produced by the project justify the cost. This analysis examines the opportunity cost of capital and determines if the project is a justifiable investment, especially to the individuals or proponent undertaking the investment. If it is not justifiable, then it is best to consider alternative investments to maximize the use of capital and other resources.

In the case of projects with "non-measurable benefits" it is not possible to make a direct comparison between benefits and costs. The decision to implement such [project is usually determined through policy and strategy considerations. The financial analysis, in this case, examines the various alternatives of implementing the project and select the least cost alternative in order to optimize the use of capital.

TOOLS USED IN FINANCIAL ANALYSIS

Cash-Flow Analysis (CFA) is a tool to:

- Provide an overall picture of all costs and benefits resulting from a project over its estimated lifetime;

* Excerpt from the "Project Development Manual, National Economic and Development Authority.

- Show the liquidity of an economic unit (e.g. an individual farmer) for each year;
- Indicate critical years in which liquidity is not sufficient to cover costs;

- Provide the basis for calculating the different measurements of profitability

1. Discounted Cash Flow Technique

This involves three steps:

a. Preparation of the project cash flow
b. Discounting the net cash flow
c. Derivation of net present value (NPV) and/or internal rate of return (IRR)

The essence of financial appraisal is the forecasting of all costs and benefits over the useful life of the project. The appraisal is done at prevailing market prices and the format in which it is set out is often described as a :cash Flow Statement".

Types of Costs in Cash Flow Statement

Type of Costs	Items
Capital Cost	Land Buildings (including site preparation and civil works) Plant and equipment (acquisition costs plus transportation Vehicles Contingency
Operating Costs	Raw materials Costs Labour Utilities Fuel Transport Repairs and maintenance
Pre-operating expenses	Expenses incorrect before commencement of operations, e.g. pre-feasibility and feasibility studies, fees, etc.

Type of Costs	Items
Sunk Cost	Use of capital assets from other projects or abandoned projects
Working capital	Stocks (of raw materials) spare parts and cash requirements to pay bills. There is no set formula for calculating working capital requirements. Each project has to be viewed individually. Only the extra requirement over and above the amounts needed in the previous year are included. The value of working capital in the last year is a benefit to the project when it is liquidated.

Cost Items excluded from cash flow statement

Items	Description
Depreciation	To avoid double counting as the cost of the asset is already accounted for in the capital costs
Loan repayment (principle payments)	A loan is taken out to purchase an asset and the value is already accounted for in the capital costs.
Interest payment	One of the reasons for deriving the cash flow is to determine the rare of interest the project can bear

Benefits. The basis for benefit valuation of output of project is shown in the following table:

Basis	Description
Sales value	If output is sold through normal commercial channels
Imputed value (using market price of output)	If output, e.g. on the farm, is not sold but is consumed by the farm family
Principle of "with" and "without" project	When a project is not completely new but merely an addition to an existing activity, the entire output of the project cannot be treated as the benefit of the project. Benefit of the project is the change (increase) in output as a result of the project.

Other considerations in cash flow analysis

Other Considerations	Description
Salvage value	Value of fixed assets at the end of project when they are sold constitute a benefit to the project
Life of project	Based on expected technical like of project's major investment components, e.g. in an irrigation project this would be determined by the expected useful life of the upstream dam and irrigation canals. Based on technological obsolescence, e.g. industrial projects and projects with a high degree of mechanization.

Comparison of liquidity and profitability approaches to financial analysis.

Issue	Liquidity	Profitability
General Objective	Checks net flow of funds	Checks attractiveness of investment
Performance criterion	Ash available to financial unit	Return of initial resources used
Period usually analyzed	Loan repayment period	Useful life of investment
Time value	Undiscounted	Discounted
Performance indicator	Incremental Cash Flow for each year	Net Present Value, Internal Rate of Return, Benefit/ Cost Ratio
Treatment of Capital	Cash purchases and sales	Initial investment, Residual value

Difference in the treatment of capital between
Liquidity and Profitability Approaches

- For analysis of liquidity enter each benefit or cost (including costs for investment in the year in which it actually occurs.)

- For analysis of profitability:

  - Enter the initial investment into an additional first column “Initial Investment”

  - Add the residual value of total investment in the last year

2. Discounting

Discounting is a technique by which the values to be realized at different points in time are adjusted to a common period (usually the present) to make them comparable.
When discounting is used the effect depends on how the costs and benefits are distributed over time and also the level of the discount rate. The level of

the discount rate can be regarded as a measure of the intensity of the decision-maker's preferences for late over early costs and early over late benefits. An increase in the discount rate indicates a stronger preference.

In short, discounting:

- Include the time value of money in the calculation of the net benefits (i.e. the different value of present consumption against future consumption and the expected rate of inflation)
- Consider the distribution of costs and benefits over the years and express them in terms of their present values
- Make different projects comparable with regard to their profitability

The Role of Discounting in Calculating Financial Performance Indicators

- The sum of the discounted incremental net benefits (including outflows for investment) is called the Net Present Value (NPV).
- The value at which the discounted incremental net benefits equals zero is called the Internal Rate of Return (IRR).
- The ratio of the discounted incremental benefits and the discounted incremental costs is called the Benefit-Cost Ratio.

Steps to Prepare the Cash Flow Table for Analysis of Profitability:

- Exclude credit received and repaid (this will give you the profitability of the total investment regardless of forms of financing).
- Add the residual value of total investment in the last year as an "inflow" this will give you the changed value of the assets).
- Create an additional column, "initial investment" (= year 0) and transfer the investment of the first year into this column (this will allow you to treat investments and returns separately).

Calculating the Net Present Value	
Step 1:	Refer to the Cash-Flow Analysis and adjust for initial investment and residual values. This gives you the Net Incremental Benefits.
Step 2:	Multiply these Net Incremental Benefits for each year with the discounting factor $\frac{1}{(1+i)}$ where "i" stands for the interest rate and "t" stands for the respective
Step 3:	Sum up all discounted Net Incremental Benefits. This will give you the Net Present Value (NPV). The NPV is expressed in monetary terms.

Note!

- The NPV critically depends on the interest rate (I) used for calculation. The higher the chosen interest rate, the smaller will be the NPV.
- With a high interest rate, costs and benefits in later years are less significant.
- The NPV also depends on the time span of analysis (number of years taken from the cash-flow-analysis).
- The particular interest rate for which NPV = 0 is called the **Internal Rate of Return (IRR).**

The NPV of a project is the value of the benefits net of the costs, both discounted at the opportunity cost of capital. The benefits and costs are defined in incremental terms compared with the situation without the project.

Two conditions must be present for a project to be economically viable:

- NPV must be equal to 0 or positive; and
- NPV must be higher than or equal to the NPV of mutually exclusive project alternatives.

Sample Net Present Values for Different Interest Rates for Two Projects

	Project A Net Incremental Benefits	**Project B**
Investment	-150	-150
Year 1	50	170
Year 2	60	120
Year 3	120	90
Year 4	160	80
Year 5	200	70
Simple Return	440	380
NPV (5%)	328	304
NPV (10%)	244	245
NPV (20%)	134	161
NPV (30%)	68	107
	0.51	0.86

3. Internal Rate of Return

The Internal Rate of Return (IRR) is used to express project profitability and calculated on a trial and error basis, usually in comparing projects within the same sector.

Two Types of IRR:

- The IRR **before** financing:

  In this case, the equity of the farmer as well as the credit received and interest and debt repayments by the farmer are **excluded** from the calculation.

  This IRR shows the profitability of the **total investment** and is usually used to compare alternative investments.

- The IRR **after** financing:

  In this case, credit received by the farmer and interest and debt service paid by the farmer are included in the calculation. Equity is not included.

  This IRR shows the profitability of the farmer's own investment.

Calculating for the IRR	
Step 1:	Choose an interest rate for the first trial calculation. If large negative cash flows are followed by a delay in benefits, then choose a low interest rate (10-20%) for trial calculation.
Step 2:	Calculate the Net Present Value for this interest rate.
Step 3:	If the Net Present Value is positive (NPV . 0), increase the interest rate and calculate the NPV , 0), reduce the interest rate and calculate the NPV again.
Step 4:	Continue this procedure until you get a NPV close to zero. At values close to zero you can estimate the IRR by interpolating between the negative and the positive NPVs.

In practice the IRR is usually calculated with the help of special pocket calculator or computer programs.

4. Scenarios

Scenarios are forecasts of different possible future situations depending on the variation of specific parameters or assumptions in defined intervals.

Rationale for Calculating Different Scenarios

Different scenarios are calculated in order to account for the insecurity in forecasting costs and benefits and to identify those cost and benefit items which are of critical importance to the cash flows resulting from the project and its profitability.

Calculating Different Scenarios	
Step 1:	Identify those cost and benefit items which are of special importance (refer to indicators and assumptions of the PTM)
Step 2:	Decide on the degree of variation, which depends on the uncertainties of forecasting the respective item.
Step 3:	Calculate the respective net incremental benefits and use these to recalculate the NPVs and IRRs.

ECONOMIC ANALYSIS*

In the most projects, whether from the government or private sector, there are basic economic choices to be made with regard to the allocation of their resources (financial resources as in most cases). Various factors which will affect the size and composition of investments have to be considered before deciding on a project that will be most beneficial to the identified sectors of society.

A project proposal must be appraised from two different viewpoints to ensure its viability and successful implementation. These are from the viewpoint of the individuals directly concerned or involved with the project (the stakeholders) and that of the society as a whole.

Here lies the difference a Financial and an Economic Analysis for the former deals with the costs and benefits measured from the viewpoint of an individual (person, agency or enterprise). These are expressed in current or nominal terms and accordingly reflect the effects of change in monetary value due to inflation.

An *Economic Analysis*, on the other hand, deals with the costs and benefits from the viewpoint of the country as a whole in constant or real terms by the use of appropriate price indices.

In practice the time streams in the revenues and costs provide a good starting point for identifying the economic costs and benefits of a project. And a failure to distinguish between the current and constant prices is a frequent source of errors in the Cost-Benefit analysis --- an effective tool used in this chapter.

Simply stated this exercise aims at determining whether or not the benefit justifies the cost.

Steps in Economic Analysis

1. **Economic Objectives/Goals** must be identified clearly by the project proponents. It is acceptable to have as many objectives as deemed fit. Traditionally, in cost-benefit analysis, profit maximization is considered as the sole objective of individuals or private institutions while most

* Excerpt from the "Project Development Manual, National Economic and Development Authority.

government/countries consider maximization of national income (consumption) as their usual objectives.

2. **Identify Cost and Benefits**. Anything that adversely affects the objectives identified are considered **costs**, while those that promote them are referred to as **benefits**.

   Thus, any increase in national income (reduction on losses and increase in outputs) or increase in national resources (such as savings in resource valuation) are considered a *benefit*.

   On the other hand, a decrease in national income or real national resources would constitute a cost.

   Benefits may be classified as:

   a. *Direct Benefits*. These are benefits directly attributed to the project. These vary according to the nature of the project undertaken.

      Example:

Nature of Project	Benefits
Irrigation Project	Increase in agricultural production
Flood Control	Reduction in flood damage; improved health
Hydro-power	Savings in cost of power availment compared to alternative power source
Road Improvement	Reduction in vehicle operating costs, increased economic activities.
Health Projects	Decrease in mortality rate, better preventive healthcare
Reforestation	Environmental protection; increase in watershed areas

b. *Externalities*. These are the effects of the project that do not impose costs or confer benefits within the confines of the project itself and are thus, not reflected in its financial accounts or analysis. However, if these effects bear upon the achievement of the country's objectives (whether positively or negatively) they are included in the economic analysis.

For example, an airport is built in a particular area. The ensuing noise pollution brought about by its operation may affect the nearby residents.

Another example would be the reforestation efforts done for an upstream land area may benefit people downstream as it may lead to less flooding.

Externalities may be classified as:

- Technological – the initial use of new technology will make it easier the second time around and will aid in the transfer of technical know-how thereby making it cheaper, less risky and easier for use in subsequent projects.
- Pecuniary – these affects the value of the goods, inputs, and outputs. The use of idle land for road projects thereby increasing its value is an example of such.

  It is not always feasible to trace and measure all such external effects but an attempt should always be made to identify them and, if they appear to be significant, measure them. If these cannot be quantified then they should be discussed in qualitative terms. Still, in some cases, it may be helpful to "internalize" externalities. This would involve combining a package of closely related activities into one project. With this approach, you hit two birds with one stone. (Example: An irrigation project likely to cause water clogging could be undertaken jointly with an appropriate drainage program).

c. *Transfer Payments*. These are payments that involve individuals or entities other than the buyers and sellers of the project inputs and outputs. This usually represent a shift of claims (a transfer) on real resources from one member or sector of society to another without affecting the national income.

Kinds of transfer payments:

- *Taxes and Subsidies*. These are treated differently in financial and economic terms with regard to being costs or benefits.

  In Financial Analysis a tax payment is clearly a cost as this reduces the net profit of a business. But these payments do not reduce the national income but merely transfers the income to the government. Therefore, from the standpoint of the economy as a whole, payment of taxes is not a cost in project accounts.

  Subsidies, however, flow in the opposite direction of taxes. This, if a family is able to purchase rice at a subsidized prices, his cost will be reduced and he benefits in terms of savings incurred. But from the standpoint of the economy, the cost of the rice in terms of the use of real resources remains the same. The resources needed to produce or import the rice reduces the national income. Hence, the economic analysis of a project must take into account the unsubsidized cost of the rice.

- *Credit transactions* which include amortization, interest and financial charges as a result of loans are relevant from the standpoint of the borrower. The loan increases his resources and the payment of the interest and repayment of the principal reduces them.

  From the view of the economy, the loan does not reduce the national income or resources as it merely transferred control over from the lender to the borrower. The economic analysis does not concern itself with the financing of investments and their repayment.

- *Depreciation* represents the economic cost of using an asset by subtracting its discounted terminal value from the initial investment cost. These are merely transfers from one bookkeeping account to another and is therefore not an economic cost.

3. **Valuate Cost and Benefits** by identifying measurable values.

   - Shadow pricing technique is the process of transforming the market price of an economic price. In project analysis, if there is a meaningful difference between market and economic prices, shadow prices are to be applied. Generally, a 5% difference is insignificant. The shadow

prices are bound to be rough estimates of the nation's critical resources such as capital, labor and foreign exchange.

- Time value of money stipulates that the value of money now, will not be the same at some future data, say next year. The value of money over time should be considered because of the opportunity cost of capital. The present value of money can be derived with the use of a Discounting Table or by using the following formulas:

  $PV = FV \{1/(1 + r)^t\}$
  This is used in computing the value of money per individual year.

  $$PV = \frac{FV}{\Sigma A (1+r)^t} \quad \begin{matrix} 1 \\ \\ t+1 \end{matrix}$$

  where PV = Present value of money in time 0
  FV = Future value
  r = Interest rate
  t = Time

4. **Compare Cost and Benefits** using:

   - Feasibility Indicators

     ⇨ Net Present Value: present value of benefits/costs
     ⇨ Cost-benefit ratio: PVB/PVC (defined in Present Value if the NPV is positive or 0)
     ⇨ Internal Rate of Return: R is where NPV = 0 and B/C = 1

   - Decision Rules: Accept if

     ⇨ NPV > 0 (where the PV of net benefits must be 0 or positive)
     ⇨ B/C > 1
     ⇨ IRR > R (must be greater or equal to the opportunity cost of capital to justify Proposed project except in the case of mutually exclusive project alternatives)

5. **Formulation of Recommendations** based on previous steps taken

   In view of the different tools and techniques discussed in the Financial and Economic Analysis, the project team may then draw up their

recommendations for the project. The results of these should be collated, compared and used to aid decision-makers.

- If the project is economically positive but financially unprofitable, approve the project. However, it is best that the government should take steps to make the project profitable for the private sector. If tax impositions are hindrances for project profitability, the government should revise or remove them altogether.

- If the project is economically not desirable but financial profitable, disapprove the project. Government should actually discourage the project.

Postcript!

The three techniques used for the Financial and Economic Analysis, namely the Net Present Value, Benefit-Cost, and the Internal Rate of Return are based on the discounted cash-flow technique as it takes into account the time value of money. This means that all future costs and benefits are discounted to the present value for comparison purposes.

The Benefit-Cost Technique is not always correct or ideal as project appraisal inherently relies on forecasting the future meaning that mistakes are inevitable. But a good project evaluation does reduce the risk of committing mistakes – especially the more serious ones.

Thus, judgement still remains essential in weighing the different criteria versus the others and in assessing the appropriateness of the underlying assumptions.

SOCIAL IMPACT ASSESSMENT*

The Social Impact Assessment is a tool that can be used to minimize, if not eliminate, the conflicts between project beneficiaries or implementors. This is normally applied to large public or private sector investments where expected social constraints and inputs are high. In such cases, the social impact assessment can be made as an integral part of the Environmental Impact Assessment as discussed in the previous chapter.

This exercise involves studying the overall social characteristics of the population – the family structure, socio-economic organizations, patterns for decision-making, conflict resolution, degree of cooperation or participation. As well as the cultural, religious, ethnic diversification in a particular group, economic activities, their income per households, etc.

This is an important process for assessing as to what extent the development objectives can be achieved in view of the social characteristics of the target group. This will help determine alternative project designs that would be more socially or culturally acceptable to the beneficiaries that would eventually result in an improved social environment.

Thus, development objectives for projects that are genuinely based on the social characteristics of target beneficiaries have to be able to address their needs in a manner that is socially acceptable to them. They may include poverty alleviation, mass impact, women empowerment.

We have been discussing target groups, target population, etc. The following differentiates the terms according to their definition:

Target Population	Part of the total population who belongs to envisaged beneficiaries of project interventions
Direct Target Groups	Homogenous groups of population towards whom project measures are directed

* Excerpt from the "Project Development Manual, National Economic and Development Authority.

Indirect Target Groups	Groups who may benefit from indirect effects of measures.
Implementary Target *Groups (Implementors)*	Groups outside the target population which are not supported because of their needs but because of their important (e.g. in delivering services, mobilization of target groups, etc.)

How to do the Social Impact Assessment	
Step 1:	Select relevant/important criteria for distinction of beneficiaries
Step 2:	Divide target population into relevant target groups homogenous with respect to chosen criteria
Step 3:	Estimate total number and percentage of beneficiaries of each target group
Step 4:	Estimate average benefit realized by respective members of different target groups
Step 5:	Assess potential negative impact on other groups outside target population
Step 6:	Review project strategy and adjust if necessary to ensure acceptability

The Social Impact Analysis, when done properly, should be a very useful tool for developing projects that are compatible to the target market in response to their identified needs. Activities to be undertaken should be carried out in such a way that they do not go against the accepted norms of the community whose needs are to be addressed.

PROJECT DEVELOPMENT COURSE FOR
LOCAL GOVERNMENTS

HANDOUTS

PROJECT DEVELOPMENT WORKSHOP

Municipality of Alfonso Lista, Ifugao

United States Agency for International Development

Governance and Local Democracy Project/GOLD

March 20 - 23, 2000

TABLE OF CONTENTS

Market Study

SCHEDULE OF WORKSHOP ACTIVITIES

Duration	Activities	Expected Output	Requirements	Frequently Asked Questions
1.5 hrs.	Determination of estimated volume of demand	• Current and potential users/ beneficiaries (direct and indirect) of the project • Market segmentation according to type of user/ beneficiaries (income classification, age, etc.) • Main determinants of demand usually referred to as "standards"	• Project Brief • Primary/ secondary data • Related studies and references • Calculator • Computer • Workshop supplies and materials	• Who are the users/ beneficiaries of the products, goods or services of the project? • What is the current socio-economic condition of the users/beneficiaries? • Where are the users/ beneficiaries located? • How long will the products be needed? • Are there other alternatives for the product?
1.5 hrs.	Determination of Supply of the Project	• Volume of supply of the project	• Project Brief • Primary/ secondary data • Related studies and references	• What is the volume of current supply for the product (local and external)? For how much? • Who are the suppliers and where are they located?

Duration	Activities	Expected Output	Requirements	Frequently Asked Questions
			• Calculator • Computer • Workshop supplies and materials	• How large is their current market/area of operation? • What are their strengths? Weaknesses? • Are there alternative supply for the product?
1.0 hrs.	Demand and Supply Analysis	• Volume of unsatisfied demand • Market share of proposed project	• Volume of established demand for the product • Volume of established supply of the project	• Is there an unmet demand? How much in terms of volume and value? • Is there an oversupply for the project? • In terms of unmet demand, how much (volume and value) can the project satisfy?
1.0 hr.	Preparation of a Marketing Plan	• Marketing Strategies/ Plan	• Existing marketing practices related to the product: ✓ Price ✓ Packaging ✓ Distribution ✓ Promotion	• What is the most acceptable and marketable form of the product? • What is the most acceptable price for the product (to users/ beneficiaries and producers)? • How will the products be accessed by the users/ beneficiaries?

Duration	Activities	Expected Output	Requirements	Frequently Asked Questions
				• What promotional activities will be conducted? • What are the hurdles that needs to be taken cared of?

Market Study

REFERENCE TABLES

Examples of Service, Product, Commodity

PROJECT	EXAMPLES OF SERVICE, PRODUCT, COMMODITY	
Power	Electricity	
Water	Potable Water Irrigation water	
Roads and Bridges	Access	
Ports	Wharfage docking space Cargo handling services Warehousing services	Passenger terminal services Commercial space
Credit for livelihood	Credit	
District Hospital	Outpatient services In-patient services	Sale of medicines
Agricultural Mechanization	Machinery for lease or rental	Diagnostic services
Agricultural Estate	Commercial space Agricultural products	Extension services Research services
Ecozone	Commercial or industrial space	
Tourism	Promotions services Lodging and food/beverage	Tours/travel assistance
Livestock Development	Veterinary services Research Services	Livestock market/commercial space Training services

PROJECT	EXAMPLES OF SERVICE, PRODUCT, COMMODITY
Fisheries Project	Fry production and sale Extension services Training
Sewerage Disposal	Sanitation services such as maintenance of septic tanks Maintenance of sewage disposal system (connections

Examples of Market/User

PROJECT	EXAMPLES OF MARKET/ USER	
Power	Residential Connections Commercial Connections	Institutional Connections
Water	Residential Connections Commercial Connections	Institutional Connections
Roads and Bridges	Vehicle owners Households	
Ports	Passenger/ cargo vessels Fishing boats Boats	Businessmen/Merchants Forwarders Cargo handlers
Credit for livelihood	Farmers Urban poor	
District Hospital	Households/families	
Agricultural Mechanization	Farmers	
Agricultural Estate	Cooperatives Farmers	Businessmen/merchants Locators
Ecozone	Businessmen/locators	
Tourism	Tourists	
Livestock Development	Farmers/livestock raisers	
Fisheries Project	Fishermen	
Sewerage Disposal	Urban residents	

Examples of Demand Units & Bases for Initial Calculations

PROJECT	EXAMPLE OF DEMAND UNIT	EXAMPLES OF CALCULATION OF DEMAND
Power	Connections Kilowatt-hours (KWH)	
Water	Population Cubic meters (m3)	
Roads and Bridges	Depends upon development needs	
Ports	Vessels per day Cargo handled Warehouses No. of passengers/day Terminal space (m2) Commercial space (m2)	Base on local knowledge Cargo handled = MT/vessel x no. of vessels/day Base on cargo handled Base on vessels docking Space = passengers /300) x 600 m2 36 m2 per 100 passengers/day
Credit for livelihood	Depends upon development needs	Farm demand = P20,000/hectare/season Fishing = Per project cost x no. of projects planned Urban poor = P40,000/urban poor household
District Hospital	Morbidity rate Number of patients	No. of Patients = (Rate/1000 population x population of service area
Agricultural Mechanization	Land area covered Machine Time/hectare/season (MTHS)	Area = see area profile MTHS = Area x 3 MTHS/hectare
Agricultural Estate		Depends upon demand for the crops or sector being considered for the estate
Ecozone		Depends upon the industries to be established. This may be derived from the profiles. The industries may be selected on the basis of raw material availability or the demand for a particular commodity (e.g. feedmills)

PROJECT	EXAMPLE OF DEMAND UNIT	EXAMPLES OF CALCULATION OF DEMAND
Tourism	Tourists	Base on available statistics
Livestock Development	Livestock Farmers Livestock	Base on data available
Fisheries Project	Fishponds (area Number of fishermen	Base on available data
Sewerage Disposal	Number of households	Base on data and growth rates

Project Identification, Development and Financing

PROJECT DEVELOPMENT WORKSHOP

Market Study

OBJECTIVES

- To determine levels of demand and supply for the product or service proposed to be provided by the project and
- To estimate the gap between supply and demand that could be filled by the project (if any).

Market Study

REQUIREMENTS

- Determine market characteristics;
- Measure market potentials;
- Market share analysis;
- Business/Economic trends;
- Analysis of Competition

Market Study

REQUIREMENTS

- Pricing studies/Consumer-User response;
- Preparing the forecasts (short and long-term); and
- Forecast validation.

Market Study

DEMAND ANALYSIS

- **Involves the estimation of the level of need and/or desire for the output or product of the proposed project**

Market Study

DEMAND DETERMINANTS

- Population
- Income
- Prices
- Substitution Possibilities
- Changes in User Tastes
- Consumer & Producer Demand

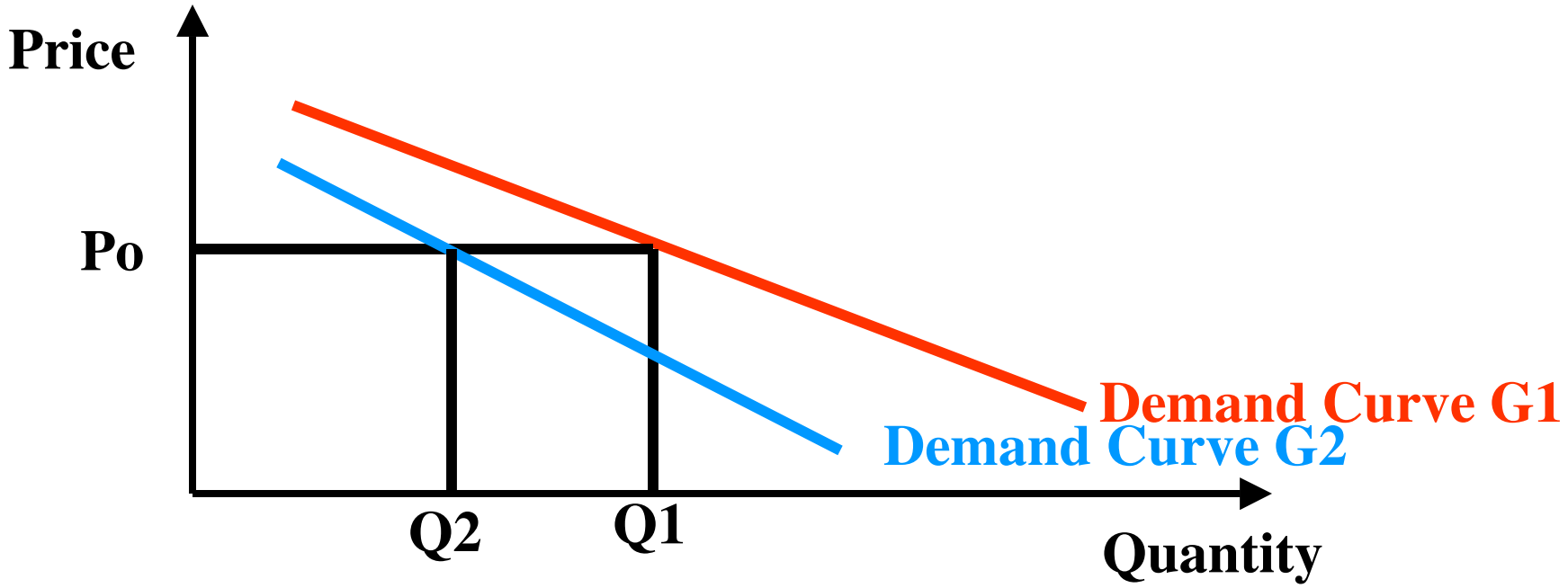
Market Study

ESTIMATING DEMAND

- **Identify and analyse demand determinants;**
- **Identify and estimate past and present demand levels;**

Market Study

Demand Curve for Specific Market Groups



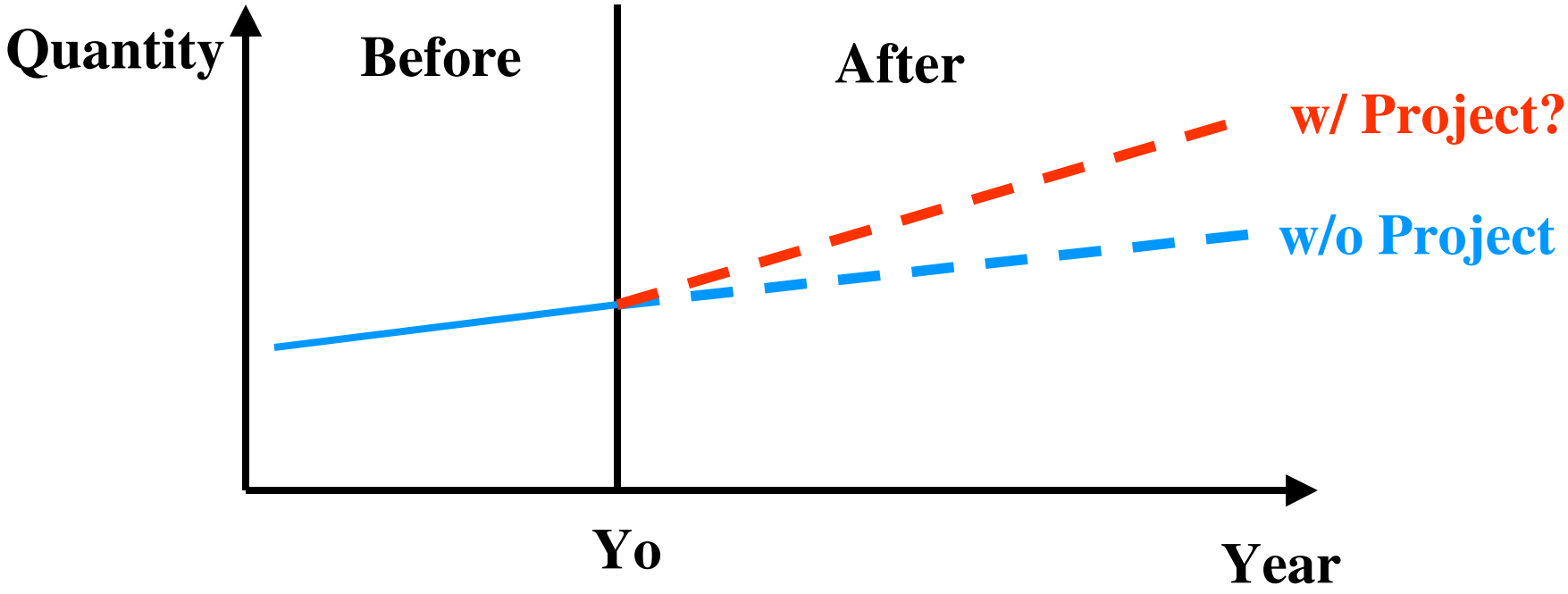
Market Study

ESTIMATING DEMAND

- **Forecast demand without Project; and**
- **Estimate demand to be generated by the Project.**

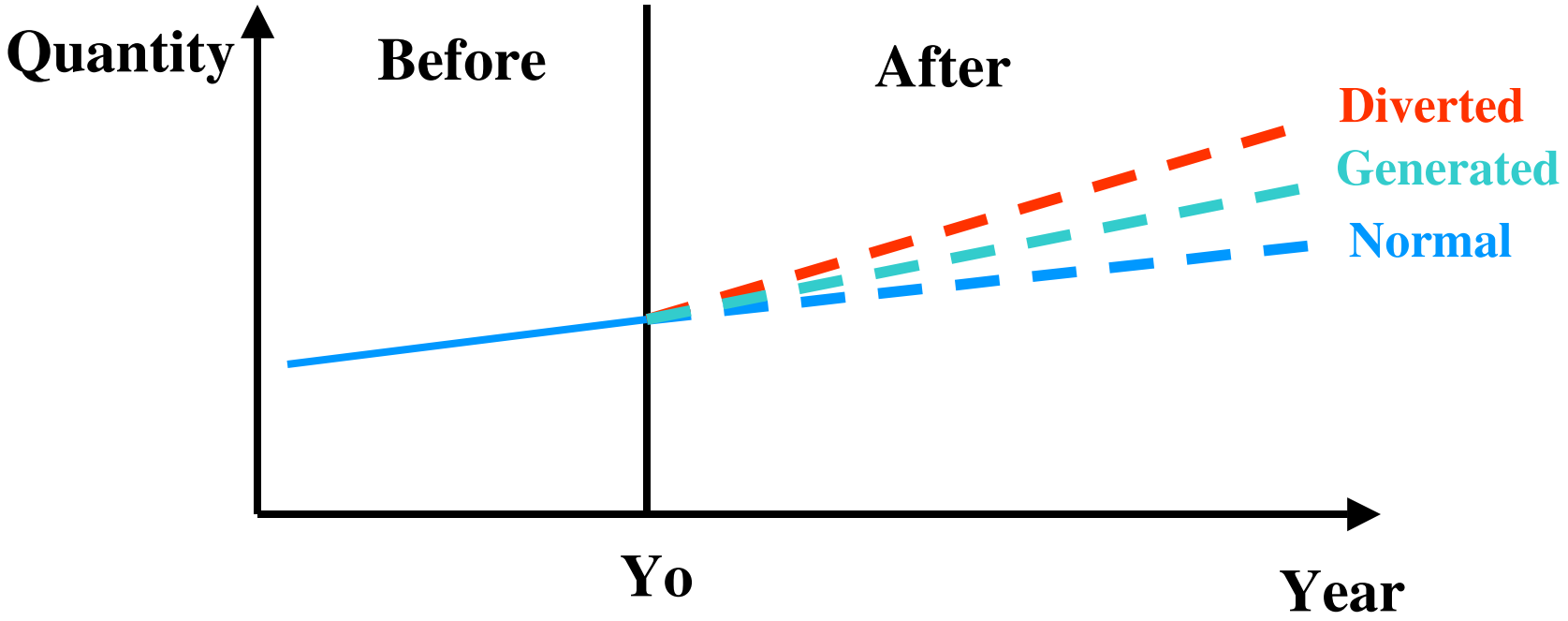
Market Study

Demand Curve for Project Output



Market Study

Demand Curve for Project Output



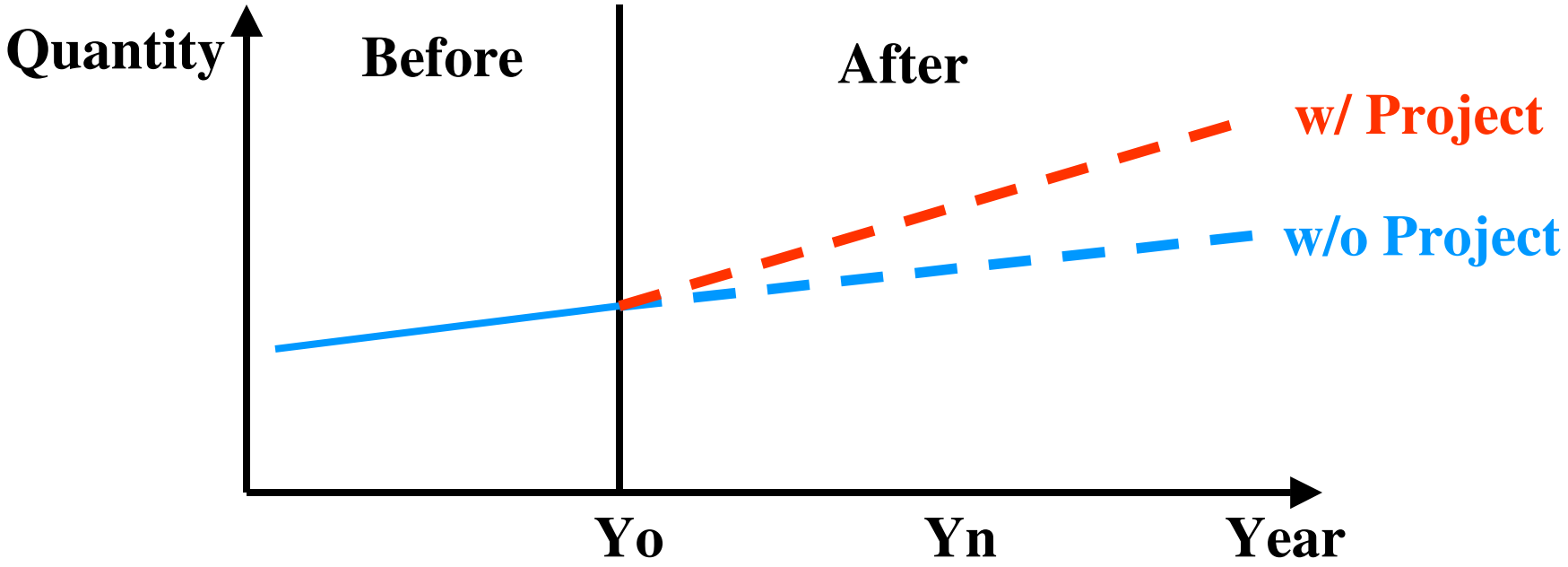
Market Study

ESTIMATING SUPPLY

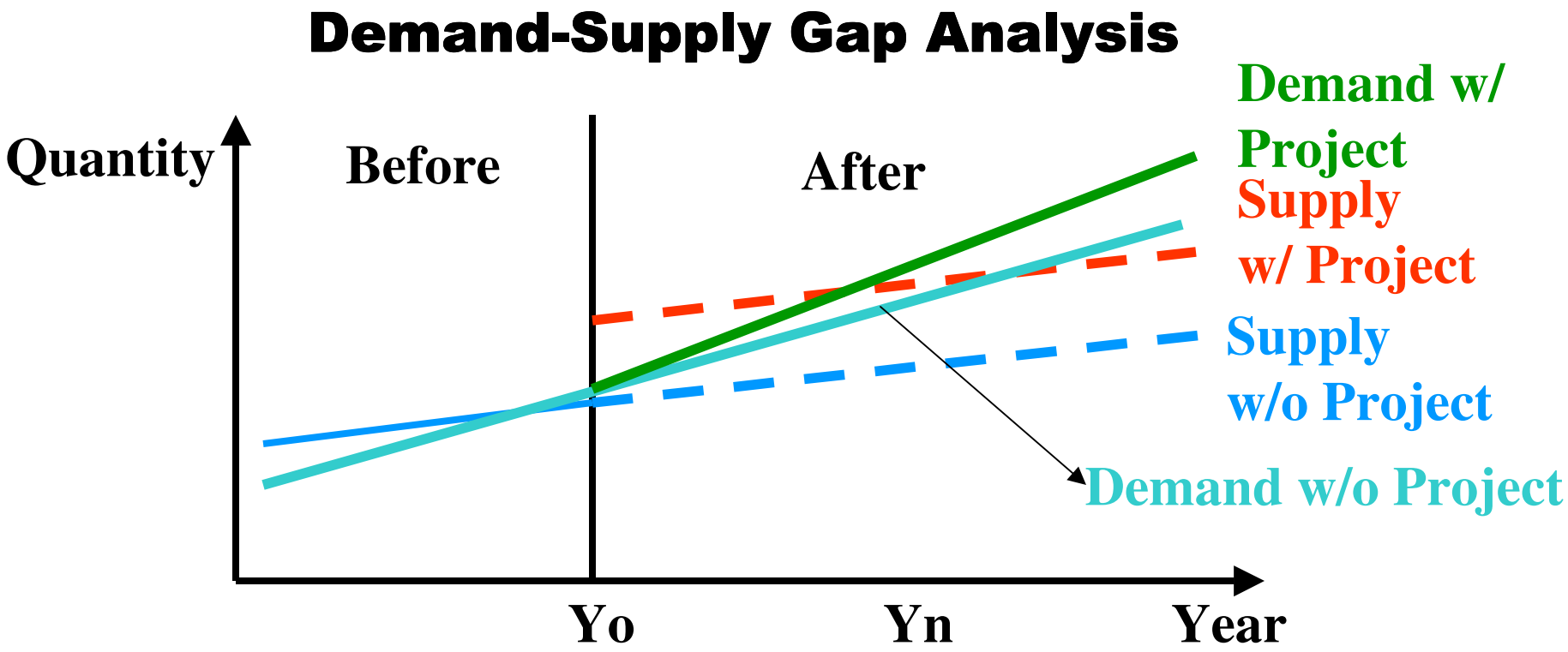
- **Current primary sources of the goods or services proposed to be supplied by the Project, and**
- **Distribution channels used to bring goods to final consumer.**

Market Study

Supply Curve of Project Output

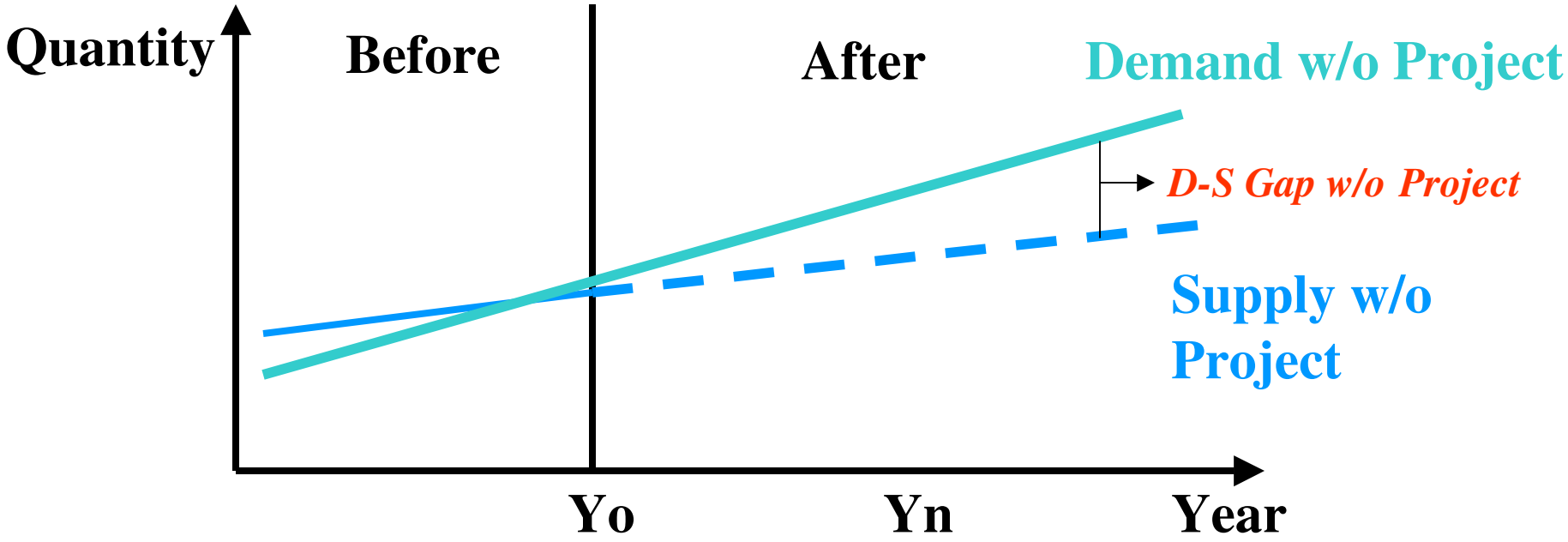


Market Study

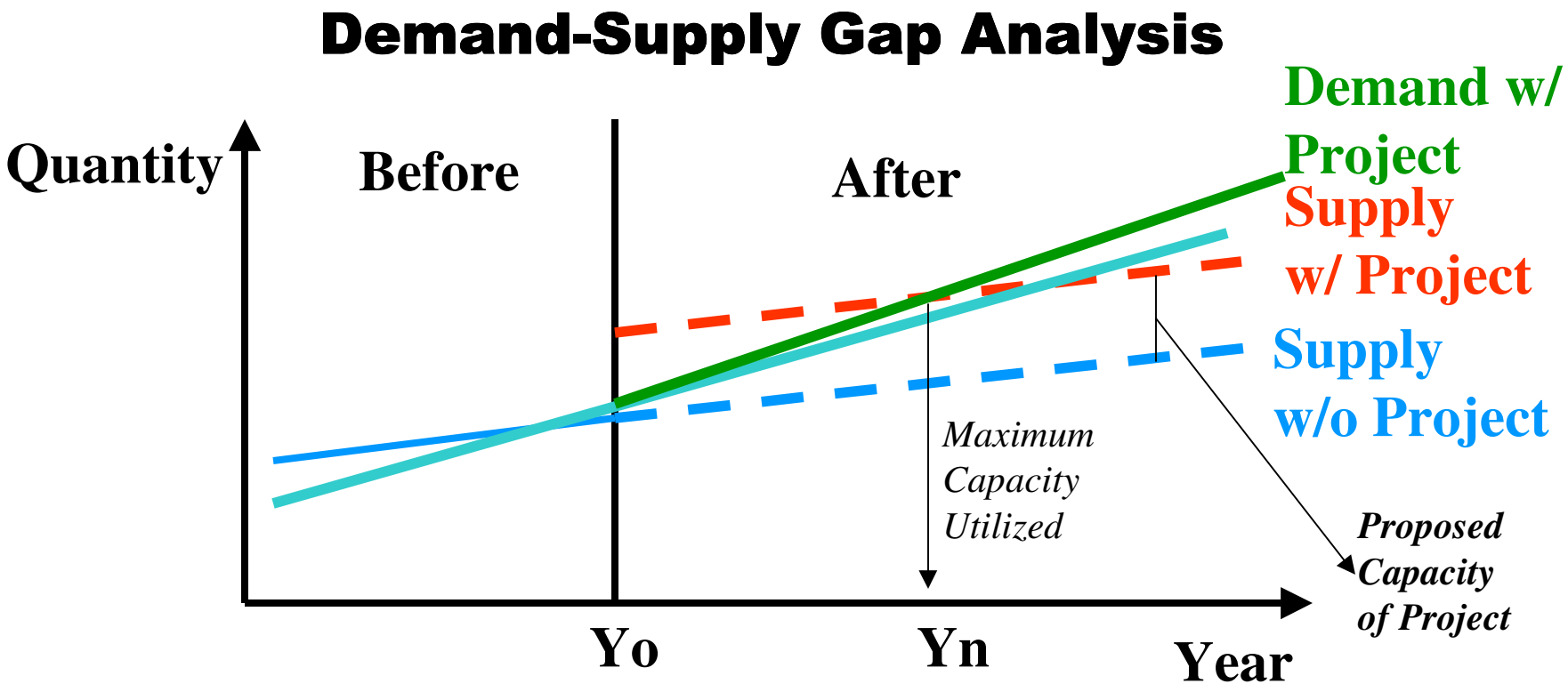


Market Study

Demand-Supply Gap Analysis



Market Study



SOURCES OF DEMAND

Direct Buyers/Users	Characteristics

SOURCES OF DEMAND

Indirect Beneficiaries	Characteristics

SOURCES OF SUPPLY

Market Channels	Characteristics
Primary Source of Goods/Service	
Intermediate Channel 1	
Intermediate Channel 2	
Intermediate Channel 3	
Intermediate Channel 4	
Intermediate Channel 5	
Intermediate Channel 6	

Technical Study

SCHEDULE OF WORKSHOP ACTIVITIES

Duration	Activities	Expected Output	Frequently Asked Questions
30 min.	**Step One:** Define the Project and Proposed Product Form in more technical terms.	Technical Description of the Project/Product/s • Scope of Project • Size/Rate/Capacity • Specific and auxiliary uses • Geographic or service area size • Limitations and Exemptions	• What is the size of this project? • Where shall it be located? • Is this essentially a horizontal or vertical project? • When is this likely to be implemented? • Is this labor-intensive or equipment-intensive? • What is the capacity of the project?
1 hour	**Step Two:** Technical alternatives and possibly phased development.	Practical Technical Alternatives (This should not preclude prerogative of LGU to decide at this point a single solution – but it is advisable to explore various angles)	• There are several ways to attack the problem. What are these? • Can the project be implemented in phasing? • Can the infrastructure components be compartmentalized? • What variables or factors have direct bearing on the project issue? • How do they affect project issue?
1.5 hours	**Step Three:** Data-gathering • List down Data that will be needed.	• ID of Data Requirements including specific output from market analysis (common to all or otherwise)	• What resources will be required of this project? • What market survey data will be needed in the study?

Duration	Activities	Expected Output	Frequently Asked Questions
	• Plan out strategy on how to approach data gathering and consolidation.. • Set the limits of extent of data-gathering. • Identify information that can be provided by LGU and those which LGU will need assistance on.	• Strategy and Limits in Data Gathering and Consolidation. • ID of LGU doables and sources in data-gathering effort. • ID of specialized skills and equipment, proprietary data and information beyond LGU's reach.	• Do we need to have an engineering profile survey for this study? • Do we need to go into house-to-house survey of FGDs? • Can we make some assumptions on this item? • Do we need to hire a design engineer for this?
	Step Four: Evaluate technical alternatives.	Narrative and numeric description of individual technical features as well as the required resources of each alternative. Distinct advantages and disadvantages.	• Given a definite market (survey results and demand projections), how much of the identified and required resources will be utilized? • How complex is the project? • What is the distinct advantage of this option over the others?
	Step Five: Identify and quantify all cost components and other project-related costs.	• Specifications • Bill of Materials • Unit Costs as a variable of output	• How much would the project cost today? • What material should be used for this process? Why? • How do we compute for overhead?
	Step Six: Identify all staffing requirements based on technical requirements of each alternative.	• Preliminary list of manpower requirement and allied services. • Bullet-point description of functions of each.	• What specialization would be needed from the staff that will run this project? • What is the minimum number of people needed to run the operations efficiently?

Duration	Activities	Expected Output	Frequently Asked Questions
	Step Seven: Decide which alternative is the best option.	Decision on best technical alternative based on pre-set criteria, or on their own merits.	• Which is the best alternative in terms of immediate cash outlay? Sustainability? Ease and practicability in implementation? Timing? • How much of the demand will be met?
	Step Eight: Review selected alternative.	• Second look on technical requirements and features. • Independent critiquing from technical resource person/s.	• Is this really the best option? • Is there a need to downsize or upsize? • Are there things we forgot to consider?
	Step Nine: Document the entire process, including assumptions, and decision points. Make all necessary (shop) drawings.	• Rough draft in preparation to full documentation or writeshop (include annexes and appendices) • Shop drawings, detail drawings, maps, blueprints, charts, tables, and pictures	• What were the assumptions used? • Inflation Rate? Exchange Rate? • Growth Rate? • How do we want to present our drawings? Hand-drawn? ACAD? Scanned?
	Step Ten: Decide on the implementation and Operations Plan.	Implementation and Operations Plan (S.M.A.R.T.)	• What method should we use? (Gantt, Bar, PERT, CPM, Flowchart, Tables, Schedule, etc.) • How do we implement the project? • What should we do first? • What about repairs and preventive maintenance? • What is the flow of the operations? • What are the critical sectors?

Duration	Activities	Expected Output	Frequently Asked Questions
			• Which are the cost and revenue centers?

Project Identification, Development and Financing

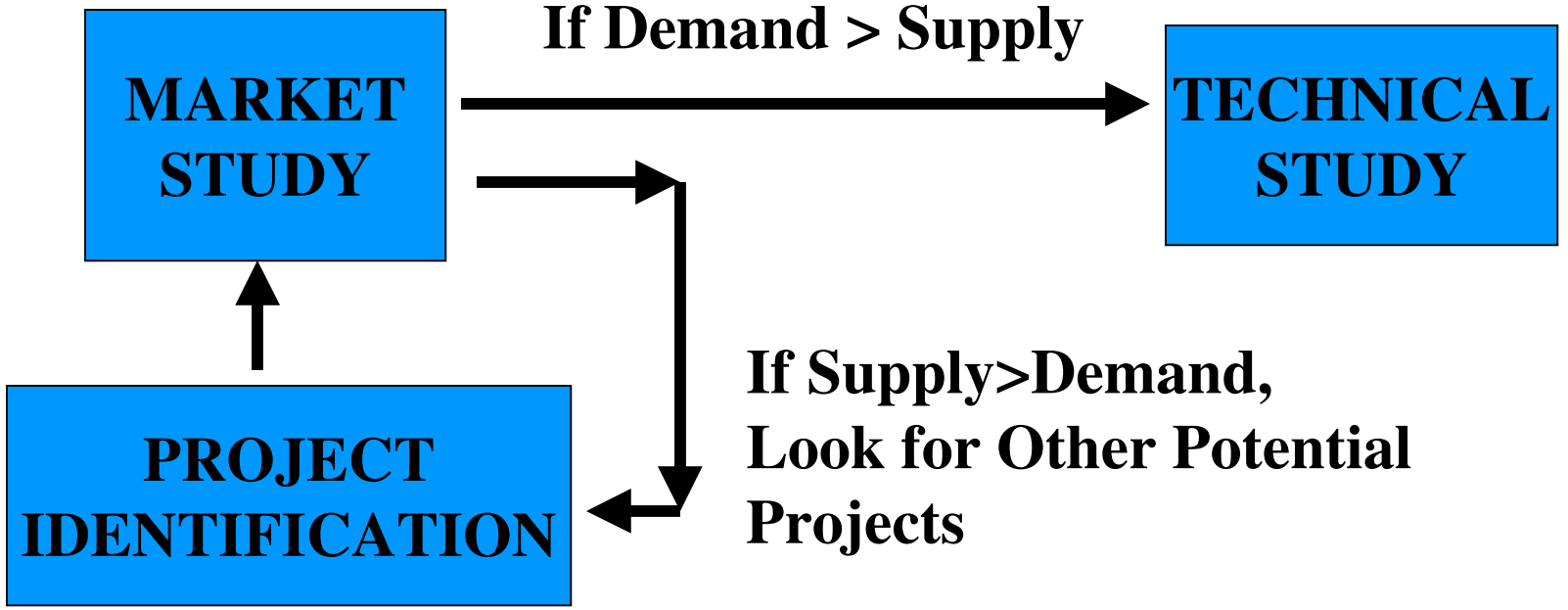
PROJECT DEVELOPMENT WORKSHOP

Technical Study

OBJECTIVES

- Determine the various technical alternatives or options for the Project;
- Generate the various decision criteria for selection of the best alternative such as least cost, efficiency, etc.

Technical Study



Technical Study

OBJECTIVES

- **Given the estimated Demand-Supply Gap, determine the optimum alternative to fill the expected Gap using the criteria indicated above.**

Technical Study

CONCEPT OF ALTERNATIVES

- **Reforms in the existing administration or regulations to improve operational efficiency of existing facilities resulting in an increase in capacity;**

Technical Study

CONCEPT OF ALTERNATIVES

- **Rationalization of the existing pricing system for increased efficiency in the utilization of facilities and services;**

Technical Study

CONCEPT OF ALTERNATIVES

- **Introduce capital investments to increase the capacity of the supply system.**

Technical Study

Capital Investments

- Alternative ways of carrying out the proposed project;
- Engineering characteristics of each technical option considered;

Technical Study

Capital Investments

- Corresponding physical resource requirements of each alternative;
- Environmental Impact of each alternative; and
- Plan for construction, installation and operation

Technical Study

Kinds of Technical Alternatives

- **Alternative technology;**
- **Alternative sizes (scale);**
- **Alternative Location; and**
- **Alternative Timing**

Technical Study

Results of the Technical Study

- **Investment cost of the preferred alternative;**
- **Investment cost on pollution abatement measures;**
- **Operating and maintenance costs; and**
- **Manning requirements.**

Organization and Management Study

SCHEDULE OF WORKSHOP ACTIVITIES

Duration	Activities	Expected Output	Requirements	Frequently Asked Questions
30 mins	Identifying the key functions and units of the organization required to deliver the project or corporate objectives	Preliminary List of Functional Units	Technical Inputs: • Project's phasing of development • List of technical personnel (from Technical Study Workshop) • Draft output of market and marketing Training Aids: • Lecture Handouts • Case studies and illustrations • Sample org'l charts • Permanent markers, manila paper/ easel sheets (for plenary presentation)	• How can one determine an organization's main objectives? secondary objectives? • What functions/functional units are needed in order to support these key objectives? • How can one develop an organization that is technically capable to handle the project? How can one determine whether an organization is capable of meeting project objectives? • What tasks can the organization do on its own? Contract out? Do with external help? How can this be determined?
30 mins	Drafting the organizational structure	Preliminary Organizational Chart/ structure	same as above	• What are the different types of organizations? • What are the characteristics of a good organization? • How does one determine the most appropriate form and structure for a certain type of

Duration	Activities	Expected Output	Requirements	Frequently Asked Questions
				project? • What factors need to be considered in determining the legal nature of the organization? • How many departments must a specific project organization have? What should each department be responsible for? • How does one determine the internal structure? How many people will be needed for each unit? What types of positions will each unit require?
2 hours	Developing the personnel complement (or staffing pattern, plantilla); position classification/titles; statement of duties and responsibilities for each position title	Staffing pattern, plantilla/ personnel complement	<u>For gov't projects</u>: • Gov't platilla, statement of duties & responsibilities • Schedule of benefits For private sector projects: • Industry Compensation package • Schedule of benefits Training Aids: • Template	• How many departments must a specific project organization have? What should each department be responsible for? • How does one determine the internal structure? How many people will be needed for each unit? What types of positions will each unit require? • What are the functions, duties and responsibilities of each of the teams? Their personnel? • What kind of skills will be required of the project personnel? What are the minimum qualification

Duration	Activities	Expected Output	Requirements	Frequently Asked Questions
				standards for each position? • What is an appropriate salary structure? Benefits package?
15 mins	Developing the employment scheme and salary structure for each position title	Preliminary Employment Plan (status, salary structure)	same as above	• How does one determine which positions are best hired on a permanent basis? contractual basis?
45 mins	Estimating the preliminary annual compensation package	Preliminary Estimates for Year 1 Salaries and Wages	same as above	• What is an appropriate salary/compensation level for a particular position? Are there any guidelines/ regulations?

Project Identification, Development and Financing

PROJECT DEVELOPMENT WORKSHOP

Organization & Management Study

OBJECTIVES

- **To provide for the appropriate project and post Project management and organization to ensure the following:**

Organization & Management Study

OBJECTIVE (1)

- Achieve proper control of the project to assure its completion on schedule and within budget, while achieving the desired quality of the resulting product or service

  [Project Implementation]

Organization & Management Study

OBJECTIVE (2)

- **Assure project sustainability during the operational phase to achieve forecast project results including financial and economic targets**

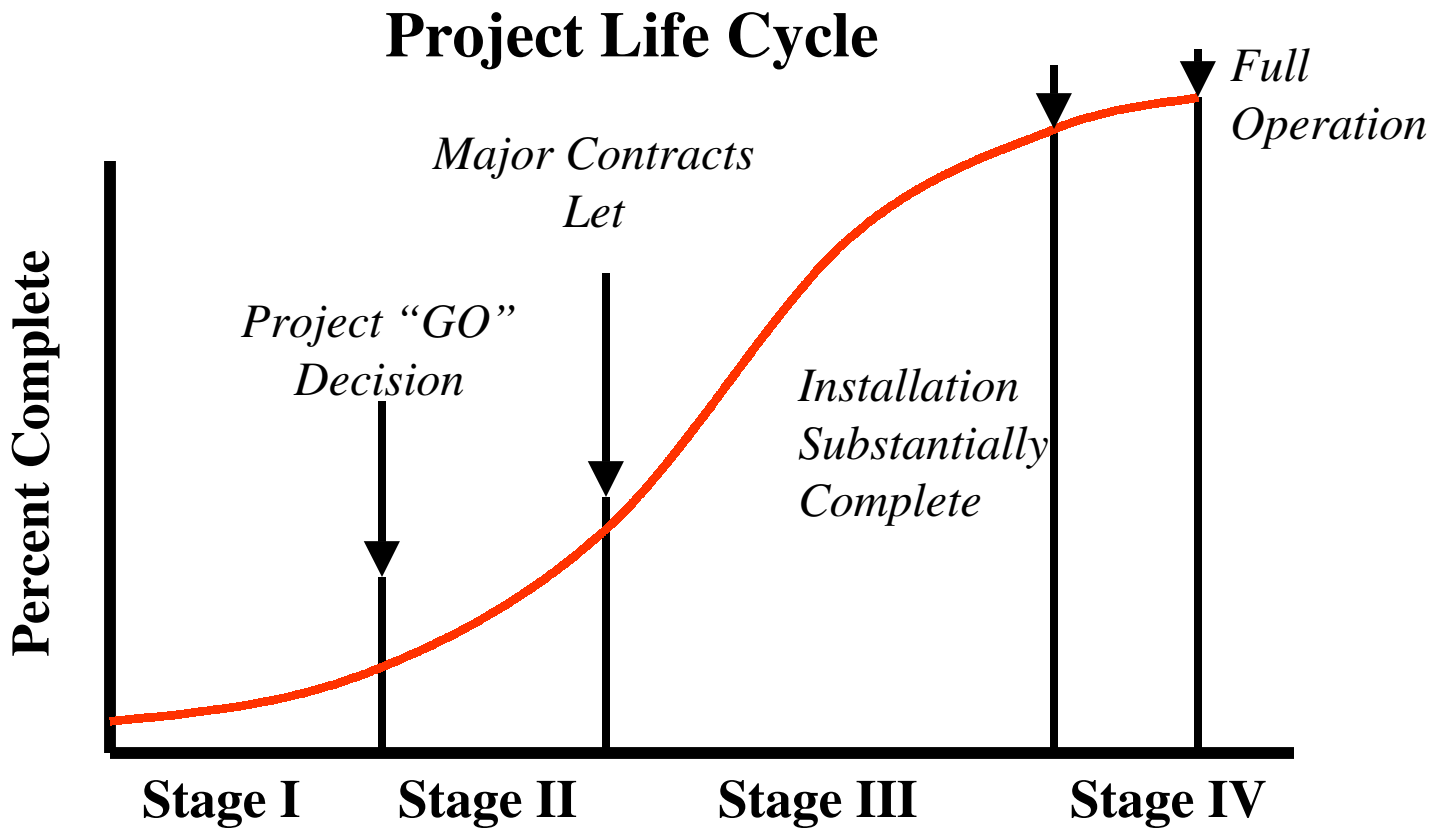
  [Project Operation]

Organization & Management Study

KEY CONCEPTS

- **Single Point of Integrative Responsibility (the project manager or his equivalent)**
- **Integrative Planning and Control**

Organization & Management Study



Organization & Management Study

Stage I

FEASIBILITY

- Project Formulation
- Feasibility Studies
- Strategy Design & Appraisal

Stage II

DESIGN

- Base Design
- Cost & Schedule
- Contract Terms & Conditions
- Detailed Planning

Organization & Management Study

Stage III

CONSTRUCTION

Civil Works

Installation

Testing

Stage IV

TURN-OVER & START UP

Final Testing

Operation

Maintenance

Financial Study

SUMMARY OF ADVANTAGES AND DISADVANTAGES OF ALTERNATIVE FINANCING MODES*

Project Credit Financing Mode	Some Conditions Under Which Mode Is Applicable	Some Advantages	Disadvantages
Bond	• When bond rates are lower than (straightforward) loan rates • When the project being financed has a short payback period since most bond issuances for now have short maturities • If the project is revenue generating. • When local citizens and institutions are willing to "participate" in the project, not necessarily through equity.	• Less strain on the borrowing limits of LGUs, until the maturity date. Up until then, only interest payments are paid. • Lends itself more to public participation. In this way, interest payments accrue "back to the community". Therefore it can be more politically tenable. • With proper denomination, the float can be a very 'democratic" way of involving the citizenry in the development of the area. • With the trustee bank's role played according to regulation, there is less risk that the finances generated from the float will be used for	• Currently, bond issuances have very short maturities. • The LGU usually needs to establish a "sinking fund" to ensure payment of principal upon the bond's maturity.

Project Credit Financing Mode	Some Conditions Under Which Mode Is Applicable	Some Advantages	Disadvantages
		a purpose other than for which the bond was issued. • With legal counsel's role played according to regulation, the interest of the investors are protected.	
Joint venture	• When the financial investment required is way beyond the LGU's capacity to mobilize. • When the technology required to implement and/or operate the project is not accessible to the LGU. • When the current level of operation (if an on-going concern) is inefficient and the LGU is not in a position to raise the level of efficiency without straining its resources. • When there are reliable private sector parties who have expressed interest to venture with the LGUs. • When the LGU, for some	• The LGU has minimal "cash-out". • The prospect of generating cash inflows from the project is higher. • Maintenance costs are minimized if not eliminated since this is assumed by the joint venture. • If the chosen venture partner is reliable and barring uncontrolled adverse occurrence, the project is likely to fare better under private sector management. • New technologies are introduced. • The LGU retains participation in the project.	• The LGU loses "total control" over the project and its facilities. • Public perception of this "abdication" could be negative. • There is the risk of the venture partner abusing the government facility or plant and equipment that was transferred to the joint venture under the agreement; So that if the venture agreement is cancelled, the LGU is faced with a useless or depreciated facility or plant and equipment.

Project Credit Financing Mode	Some Conditions Under Which Mode Is Applicable	Some Advantages	Disadvantages
	reason prefers to maintain a level of participation in the project or operation. • When financing rates are high and financial resources from the banking sector are difficult to access.	• There is likely to be a net investment flow into the community. • The chances of taking advantage of opportunities for the project's further growth, under private management or operation are greatly improved.	
Loan Financing	• When a project which is traditionally handled by an LGU cannot be funded internally nor can it be offered to the private sector for implementation.	• Income generated from the project accrues to the LGU • Minimal capital outlay, • Periodic payments give the LGU time to accumulate sufficient funds for the purpose	• In cases when revenues from project prove insufficient for debt service, IRA ultimately becomes the source of repayment. • There is the possibility that the financial projections are not attained due to unforeseen events like change in market preferences, natural calamities, changes in political policies, etc.
Build-Operate-Transfer (BOT)	• When the project being offered requires a franchise. This would include water supply and power supply (mini-hydro) projects.	• Minimal investment outlay from the LGU. • It allows the LGU to implement key or strategic projects by tapping private	• LGU involvement in the actual operation of the facility or project is not as substantial as in a joint venture project. • There is always the risk that the

Project Credit Financing Mode	Some Conditions Under Which Mode Is Applicable	Some Advantages	Disadvantages
	• Alternatively, when a "franchise situation" exists. This is a situation in which a condition of "exclusivity" is possible. Such a condition could result from local legislation (such as zoning requirements). Or, a combination of the existence of scale economies and LGU control over physical assets (especially land or an existing facility) in an area. Such control makes the LGU the only institution in a position to take advantage of such scale economies. • When the financial investment required is way beyond the LGU's capacity to mobilize or when the LGU simply chooses not to spend on the facility. • When the technology required to implement and/or operate the project is not accessible to the LGU. • When the project is	sector interest. • It will have very low, if at all, effect on the LGU's borrowing limits. • Under certain BOT types (of which there are nine), the facility or project subject of the BOT agreement is turned over to the LGU after a number of years of use by the BOT investor . • It gives the private sector an opportunity to invest in projects traditionally expected of LGUs.	BOT investor leaves a fully depreciated facility by the time the BOT agreement matures.

Project Credit Financing Mode	Some Conditions Under Which Mode Is Applicable	Some Advantages	Disadvantages
	profitable, especially if there are reliable private sector parties who have expressed interest to enter into a BOT arrangement with the LGU.		

* Local Government Operations: An Orientation
Conducted by the Associates in Rural Development, Inc.
Under the Governmance and Local Democracy (GOLD) Project

Financial Study

SCHEDULE OF WORKSHOP ACTIVITIES

Duration	Activities	Expected Output	Requirements
30 minutes	• Participants outline financial assumptions	Financial Assumptions	Idea cards Pens
30 minutes	• Participants determine sources of Revenues, Pricing. • Compute for Year 1 Revenues	Schedule of Revenues (Year1)	Calculator Working paper Pens Computer Diskettes
30 minutes	• Participants estimate Cost of Goods Sold/Services Rendered and operating expenses for Year 1	• Schedule of Cost of Goods Sold/Services Rendered • Schedule of Operating Expenses	Calculator Working paper Pens Computer Diskettes
15 minutes	• Tabulation of Project Cost • Computation of Depreciation Expenses	Schedule of Depreciation	Calculator Working paper Pens Computer Diskettes
45 minutes	• Preparation of Income Statement	Projected Income Statement	Computer Diskettes

Duration	Activities	Expected Output	Requirements
90 minutes	• Preparation of Cash Flow	Projected Cash Flow	Computer Diskettes
60 minutes	• Preparation of Balance sheet	Projected Balance sheet	Computer Diskettes
30 minutes	• Participants compute for Internal Rate of Return, NPV, Payback	Investment Analysis	Computer Diskettes
30 minutes	• Consolidation of Statements	Draft Financial Study	Computer Diskettes

FINANCIAL OPTIONS*

There are several possible financing options for various types of projects which can be tapped by Local Government Units (LGU). The discussion that follows seeks to give some ideas on the available financing options from various sources, local financing and through the Official Development Assistance (ODA) facilities.

The Local Government Code (LGC) 1991 provides the legal framework for LGU financing making available financing options. Among these include LGUs share from the proceeds of national taxes, local taxation and fiscal matters, credit financing, and build-operate-transfer schemes. The following are the short description of these options:

- Internal Revenue Allotment (IRA). These is of local government's share in the proceeds of national taxes which constitute 40% of total national internal revenue taxes with fixed percentage allocations to individual LGUs. Their share depends on whether they are provinces (23%); cities (23%); municipalities (34%) and barangays (20%); and on the basis of their population (50%); land area (25%); and equal sharing (25%).

- Credit financing. LGUs can also avail of credit facilities to finance local infrastructure and socio-economic development projects in accordance with approved Local Development Plans and Public Investment Programs.

- Build-Operate-Transfer (BOT) Schemes. The LGC also allows LGUs to enter into contracts for financing, construction, operation, and maintenance of viable infrastructure projects under the BOT scheme provided under R.A. No. 7718 (BOT Law).

* Excerpt from the "Project Development Manual", National Economic Development Authority.

Sources of Financing

A. Public Sources

1. Government Financing Institutions (GFIs)

- Land Bank of the Philippines provides funds for the promotion of countryside development and has been a major contributor to rural credit delivery in the Philippines. Its main portfolio of loans is in the agrarian sector. Among the projects it has financed include bus terminals, public markets, telecommunications, housing, water system, road construction and traffic systems.

- Development Bank of the Philippines. DBPs main countryside assistance is its Window III program consisting of activities that facilitate the delivery of basic services to enhance the quality of life of Filipinos, particularly of the marginalized or disadvantaged groups in the rural areas. Some of the projects supported by the DBP include:

  - Expanded public transportation boundary (hulog)
  - Schools and hospital financing
  - Rural electric cooperatives special program
  - Damayan sa Pamumuhunan program
  - Cattle financing program
  - Fisheries sector financing program
  - LGU financing program

- Municipal Development Fund created by a Presidential Decree in March 1984 to coordinate the fragmented and uncoordinated borrowing and grant system to the LGUs. The MDF is administered by the Bureau of Local Government Finance (BLGF) which is under the Department of Finance. Aside from providing loans, the MDF also provides technical assistance to LGUs for project identification and feasibility studies, and other projects (like the Real Property Tax Administration Project).

B. Private Sources

1. Commercial banks like the Philippine National (PNB), Development Bank of the Philippines (DBP) and Landbank. These three banks are commonly the source of financing for LGUs. Annex __ provides vital information on some of the available lending facilities offered by these banks.

2. Municipal bond flotation. Provinces, cities and municipalities are authorized under the LGC to issue municipal bonds under two conditions: (a) the obligation financed should be self-liquidating, income producing development or livelihood projects and (b) the projects to be finance must be in accordance with priorities established in the approved local development plan or the public investment program. It should be noted that bond flotation requires the endorsement/ approval of the BSP.

3. Build Operate Transfer (BOT) financing scheme makes use of private investment to undertake infrastructure projects which were previously financed and implemented by the public sector. Among the projects that are eligible for BOT scheme include the following:

    - Highways including roads, bridges, interchanges, tunnels and related facilities
    - Railways or rail-based projects
    - Non-rail based mass transit facilities, navigable inland waterways and related facilities
    - Airport, air navigation and related facilities
    - Power generation, transmission and distribution
    - Market and slaughterhouses
    - Waterhouses and post-harvest facilities
    - Public fish ports and fishponds, including storage and processing facilities
    - Environmental and solid waste management and related facilities such as collection equipment, composting plants< incinerators, landfill and tidal barriers

BOT schemes appear to be a good option for providing LGUs with a viable vehicle to overcome their budgetary resource constraints and accelerate the implementation of infrastructure projects. With the BOT scheme, LGUs need not depend on financial assistance from the national government. If a local government unit can develop and

package a financially viable project, it only needs to solicit investor interest in the project and undergo the processing procedures prescribed under the BOT Law and the LGC.

C. These are financing options offered by the multilateral agencies (international agencies possessing no national identity) like the World Bank, Asian Development Bank (ADB). OECF, and bilateral agencies (government-to-government). These multilateral agencies have put their resources into a kitty (the Municipal Development Fund) which can be used by the LGUs. The Municipal Development Fund (MDF), is a revolving fund which was created in March 1984 by virtue of a Presidential Decree. The MDF is administered by the Bureau of Local Government Finance under the Department of Finance (DOF).

   The MDF is available to LGUs for their socio-economic development programs. Some of the projects that may be eligible for funding include public markets, slaughterhouses, roads, solid waste projects, health centers, bus terminals, drainage and waterworks and other similar development projects.

   The different sources of multilateral assistance for the Philippines include UN Agencies, European Economic Community (EEC), International Bank for Reconstruction and Development (IBRD), the ADB, OPEC Special Funds and International for Agriculture and Development (IFAD). The EEC provides assistance in the form grants (technical assistance, training, etc.) while others may provide them in the form of loans with low interest and long repayment terms. Inasmuch as these donors have their particular requirements, it would be best that NEDA be consulted for the more updated requirements from time to time. NEDA would also have current information on the current thrusts of these ODA sources.

Project Identification, Development and Financing

PROJECT DEVELOPMENT WORKSHOP

Economic Analysis

OBJECTIVE

- **To determine whether a specific project will generate the highest level of net economic benefits as compared to other alternative investments.**

Economic Analysis

BASIC CONCEPTS

- **Opportunity Cost - Value of a good/service in its next best alternative use, and**
- **Willingness to Pay or Value in Use - Value to the user of a specific good or service.**

Economic Analysis

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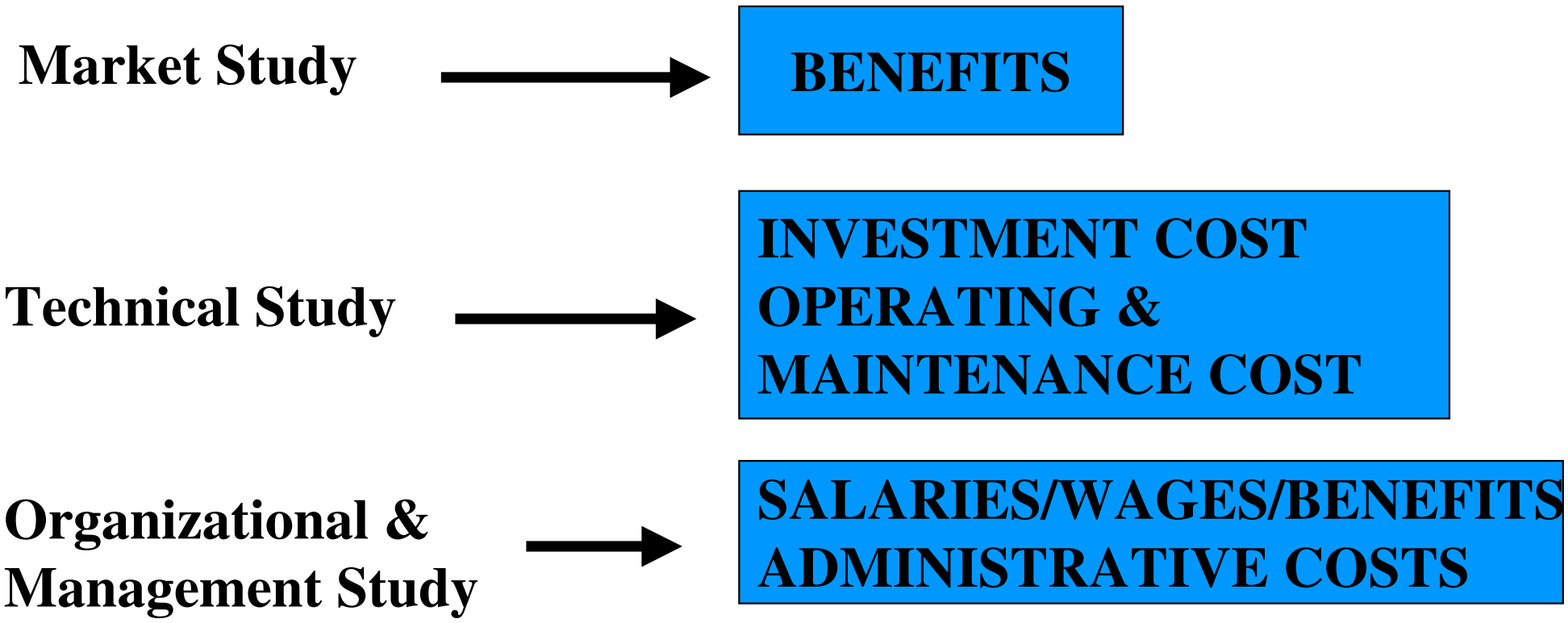
Economic Analysis

SOURCES OF DATA



Economic Analysis

Adjusting Financial Prices to Economic Values

- **Adjustments for Price Distortions in Traded and Non-Traded Items;**
- **Foreign Exchange Premium or the Shadow Foreign Exchange Rate**

Economic Analysis

Adjusting Financial Prices to Economic Values

- Value of Labor or the Shadow Wage Rate;
- Value of Land or the Opportunity Cost of Land
- Direct Transfer Payments

Economic Analysis

Adjusting Financial Prices to Economic Values

- Residual Values;
- Contingency Allowances;
- Replacement Costs; and
- Sunk Costs

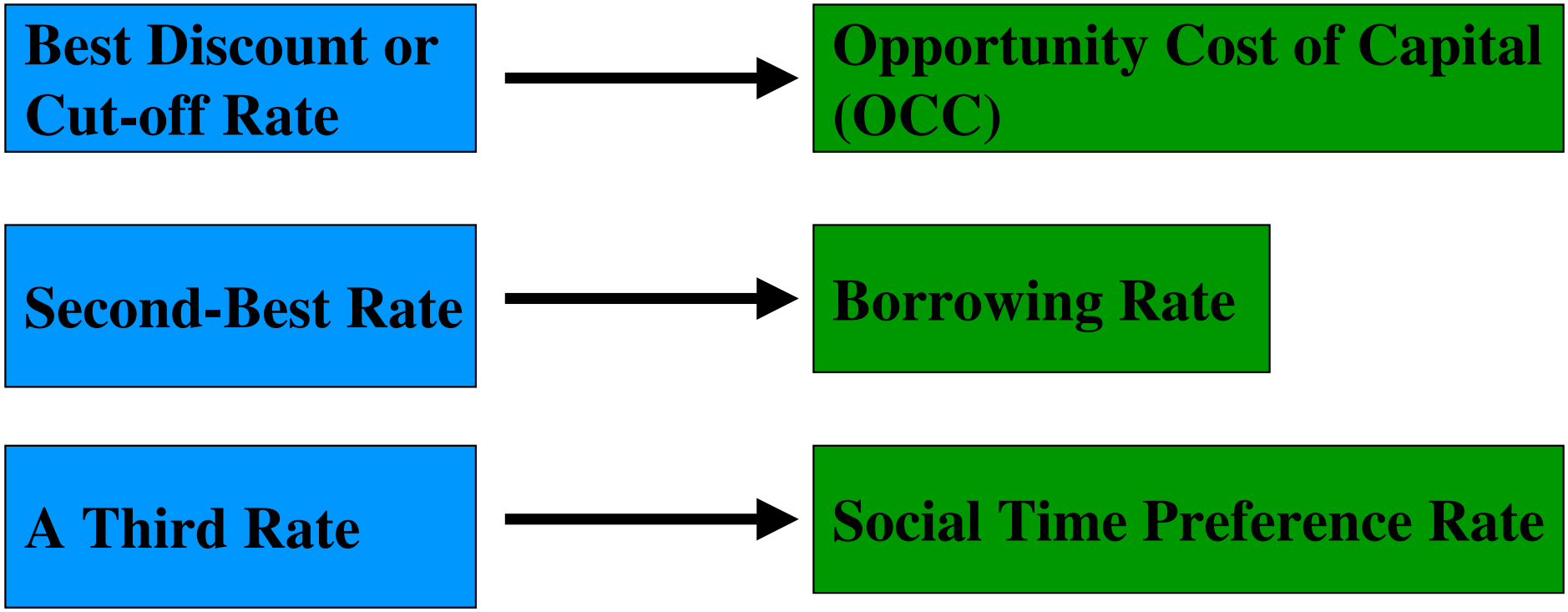
Economic Analysis

Length of Project Life

The General Rule is to choose a time period that will be roughly comparable to the economic life of the Project. If the Project requires a fairly sizeable initial capital investment in one kind of asset, a convenient starting point is the technical life of the major investment item.

Economic Analysis

CHOOSING THE DISCOUNT RATE



Economic Analysis

DISCOUNTED MEASURES OF ECONOMIC VIABILITY

$$\text{Net Present Value} = \sum \frac{Bn - Cn}{(1 + r)^n}$$

Internal Rate of Return (IRR) = r

Where:

$$\sum \frac{Bn - Cn}{(1 + r)^n} = 0$$

Economic Analysis

DISCOUNTED MEASURES OF ECONOMIC VIABILITY

$$\text{Benefit-Cost Ratio} = \frac{\sum \frac{Bn}{(1+r)^n}}{\sum \frac{Cn}{(1+r)^n}}$$

Economic Analysis

ECONOMIC HURDLE RATE

Measure of Project Worth	Hurdle Rate
Net Present Value →	Accept if NPV>0 at r > OCC or BR or STPR or WACC
Internal Rate of Return →	Accept if IRR > OCC or BR or STPR or WACC

Economic Analysis

ECONOMIC HURDLE RATE

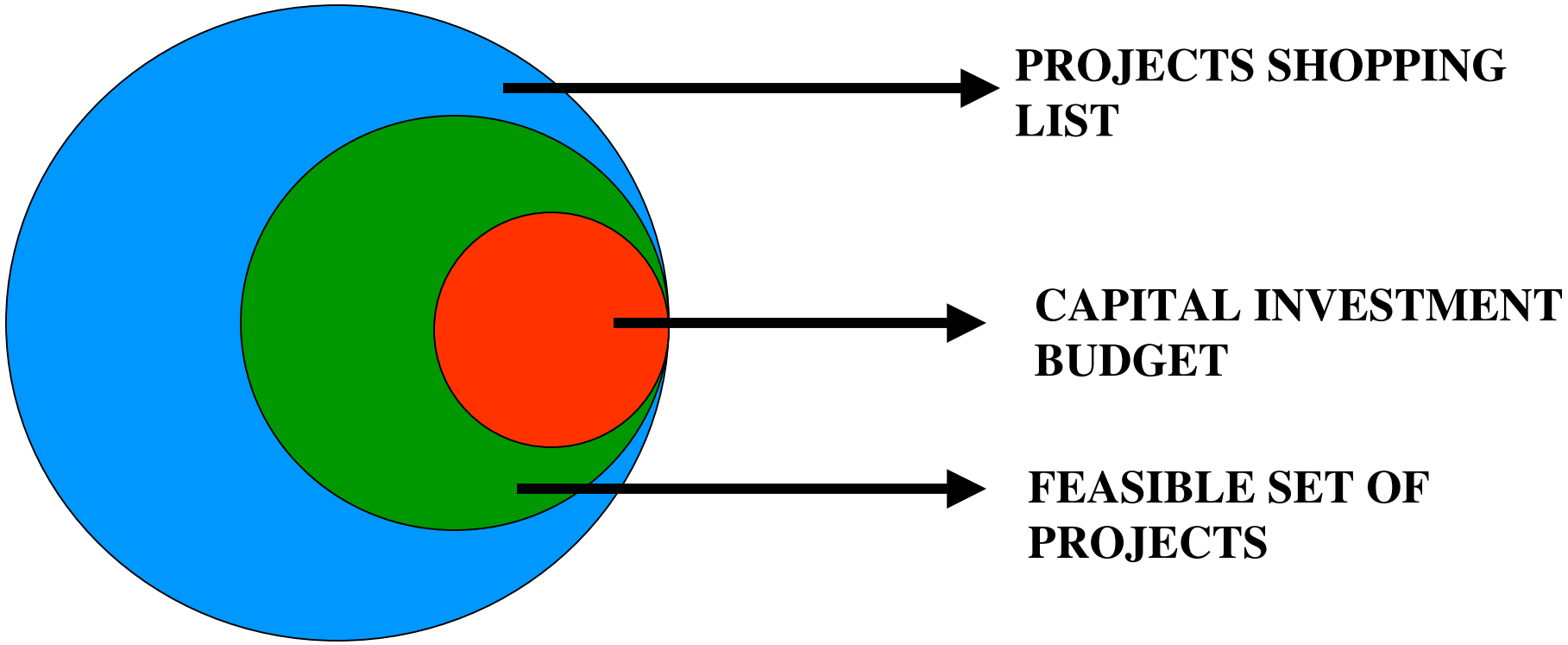
Measure of Project Worth	Hurdle Rate
Benefit-Cost Ratio →	Accept if BCR > 1 at r > OCC or BR or STPR or WACC

Project Identification, Development and Financing

PROJECT DEVELOPMENT WORKSHOP

Financial Analysis

CONSTRAINTS TO CAPITAL INVESTMENTS



Financial Analysis

OBJECTIVE

- **To determine whether a specific project or capital expenditure will give the desired level of economic rewards within the constraint of the degree of risk that is acceptable.**

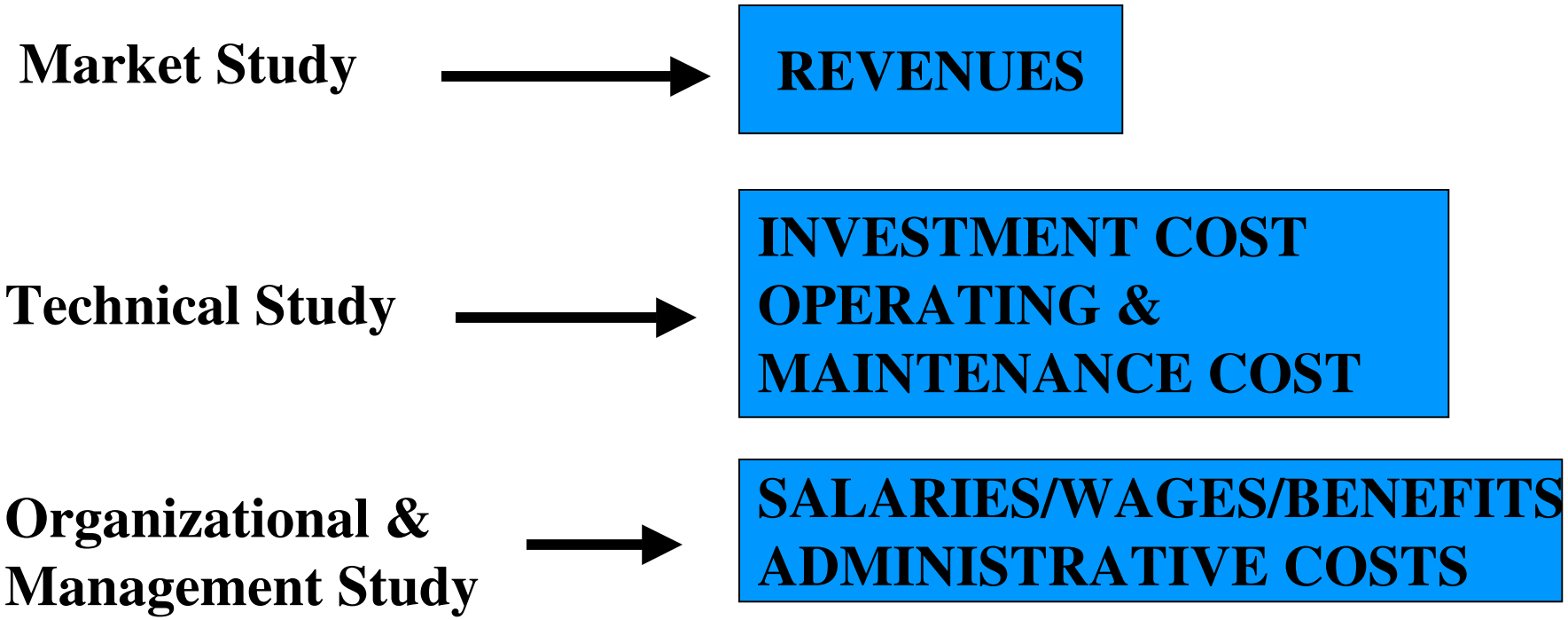
Financial Analysis

Elements Affecting the Attractiveness of an Investment

- The amount spent (Investment)
- Potential benefits (operating cash flows)
- Time period (economic life of the investment)

Financial Analysis

SOURCES OF DATA



Financial Analysis

TAKE-OFF POINTS

- Cash Flow Statement
- Profit and Loss Statement
- Balance Sheet

Financial Analysis

SIMPLE MEASURES OF FINANCIAL VIABILITY

$$\text{Payback Period} = \frac{\text{Net Investment}}{\text{Average Annual After Tax Profit}}$$

$$\text{Return on Investment} = \frac{\text{Average Annual After Tax Profit}}{\text{Net Investment}}$$

Financial Analysis

DISCOUNTED MEASURES OF FINANCIAL VIABILITY

$$\text{Net Present Value} = \sum \frac{Rn - Cn}{(1 + r)^n}$$

Internal Rate of Return (IRR) = r

Where:

$$\sum \frac{Rn - Cn}{(1 + r)^n} = 0$$

Financial Analysis

FINANCIAL HURDLE RATE

Measure of Project Worth	Hurdle Rate
Net Present Value →	Accept if NPV>0 when r > borrowing rate
Internal Rate of Return →	Accept if IRR > borrowing rate